ONLY £2.95

The best-selling Acorn magazine in the world

ACORN USER

Essential for all users of 32-bit Risc OS computers

Impression vs PageMaker vs Quark

Does Acorn win the DTP battle?

MPEG

ProArtisan 24

Special needs

Sim City 2000





£2.95 CHRISTMAS 1994 ISSUE 150
ISSN 0263-7456
13>
9 770263 745031

New Releases...

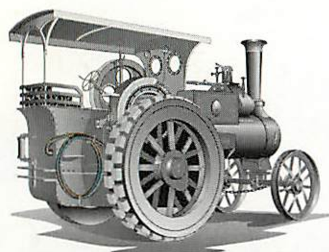


A new professional edition of the best selling Impression DTP program.

This version offers enhanced colour control (named and spot colours), EPS and OPI support for professional full colour DTP work.



Publisher Plus
£299 + VAT (£351.32 inc)
Upgrade from Impression Publisher
£130 + VAT (£152.75 inc)

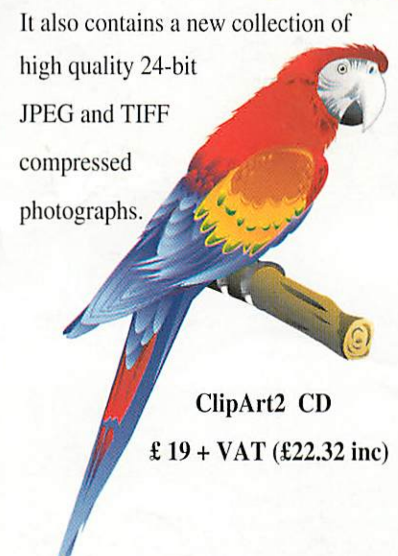




The results of the second ArtWorks clip-art competition. This CD includes over 500 new clip-art examples, plus all those included in the ArtWorks package.



It also contains a new collection of high quality 24-bit JPEG and TIFF compressed photographs.



ClipArt2 CD
£ 19 + VAT (£22.32 inc)





This package includes a copy of the TurboDriver software and network spooler software allowing any machine connected to an AUN compatible network to print to a common printer. The software also supports LaserDirect printers and includes an unlimited network site licence.

Network Spooler
£149 + VAT (£175.07 inc)



A completely new mathematical and equation formulae editor. Outputs Drawfiles and is OLE compatible allowing it to integrate with suitable applications such as Impression Style and Publisher. Features include full undo, WYSIWYG display, matrices, drag and drop etc.



Formulix
£69 + VAT (£81.07 inc)
Upgrade for existing Equasor owners
£49 + VAT (£57.58)

CONTENTS

Editor's letter

Another year, another Acorn World Show over, and it's time to look at all the new products released for the Christmas market. Unsurprisingly one area that Acorn machines are surging shead of the competition is in digital video, and our look at MPEG this month and Eidos next month shows that the future for Acorn in this area will certainly be interesting, and possibly even huge.

Another interesting snippet is that *Acorn User* is now part of IDG, the largest publisher of computer magazines in the world. Our address has changed slightly, though the phone number has changed, so if you're dropping us a line, do check. And if you're not dropping us a line, why not give it a go?

Mark Moxon, Editor

Editor Mark Moxon
Deputy Editor David Matthewman
Production Editor Judith Chapman
Art Editor Carl Fox
Contributing editors
Ian Burley (News) Steve Atherton (Games)
Jack Kreindler (Graphics) David Dade (Comms)
Paul Wheatley (Public Domain)
Geoff Preston (Education) Steve Powell (DTP)
Alex Singleton (Business)
Advertisement Manager Emma Barr
Advertisement Sales Executive Lisa-Jo Oliver
Ad Production Wendy Binnersley
Ad Typesetting Alan Capper, Eddie Burke
Marketing Manager Lucy Oliver
Production Manager Sandra Childs
Commercial Director Denise Wright
Circulation Director David Wren
Distribution COMAG (0895) 444055
Subscriptions Database Direct
051-357 1275
Managing Director Ian Bloomfield
Cover Carl Fox

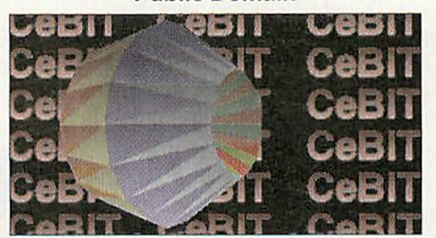
Member of the Audit Bureau of Circulation
Acorn User is an independent publication and Acorn is not responsible for any of the articles in this issue or for any of the opinions expressed



Published by IDG Media Ltd,
Media House, Adlington Park, Macclesfield
SK10 4NP, e-mail mark@acornusr. demon. co. uk
Tel: (0625) 878888 Fax: (0625) 850652
Printed by Duncan Web Offset, Maidstone

12 issue subscription rate: £35.40 (UK), £49 (EEC), £69 (World)

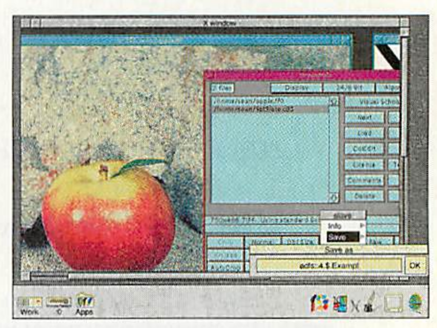
REGULARS



HANDS ON

REVIEWS





January 1995

FEATURES

NEXT ISSUE ON SALE 29 DECEMBER



Selected prices 11th November 1994

New products

A3010 2M Early Years ACOR £399
A3010 2M Early Years with SVGA Multiscan Monitor ACOR £499
A4000 2M HD210 Early Years with SVGA High Resolution Multiscan Monitor ACOR £949
A4000 2M HD210 Early Years with SVGA Multiscan Monitor ACOR £899
Risc PC 600 2M HD210 Early Years 14" Monitor ACOR £1269
Risc PC 600 2M HD210 Early Years 17" Monitor ACOR £1669
Risc PC 600 5M HD210 Early Years 14" Monitor ACOR £1429
Risc PC 600 5M HD210 Early Years 17" Monitor ACOR £1829
Risc PC 600 9M HD420 Early Years 14" Monitor ACOR £1729
Risc PC 600 9M HD420 Early Years 17" Monitor ACOR £2129
Bubble Jet BJC-4000 CANO £339
Clip-Art CD 2 COMC £18
Formulix COMC £67
Impression Publisher Plus COMC £285
Impression Publisher Plus as upgrade from Impression Publisher COMC £125
Playdays, age 3-8 GAME £19
Sibelius 6 primary site licence SIBE £299
Sibelius 6 secondary site licence SIBE £599
Sibelius 7 site licence SIBE £1450
TV Tuner COMC £88
TV Tuner with Teletext COMC £157

Software

!Draw_Help, age 13+ SHER V0 £16
10 out of 10 Dinosaurs 10OU £18
10 out of 10 Driving Test 10OU £18
10 out of 10 Early Essentials, age -6 10OU £18
10 out of 10 English, age 6-16 10OU £18
10 out of 10 French, age 6-16 10OU £18
10 out of 10 Junior Essentials, age 5-11 10OU £18
10 out of 10 Maths Algebra, age 6-16 10OU £18
10 out of 10 Maths Number, age 6-16 10OU £18
10 out of 10 Maths Statistics, age 6-16 10OU £18
10 out of 10 Spelling 10OU £18
Access for A3000 ACOR £138
Access for Risc PC 600 ACOR £118
Acorn Advance ACOR £88
Acorn Advance Primary Licence ACOR £181
Acorn Advance Secondary Licence ACOR £440
Advance User Guide ACOR V0 £11
Advantage, KS2,3 LONG £46
Air Supremacy SUPE £18
Amazing Maths, KS1-4 CAMS £19
Ancestry, KS3,4 MINE £47
Apollonius PDT OAKS £140
ArcFax PILL £28
ArcFS 2 VERT £20
Archimedes Game Maker's Manual SIGM V0 £15
Arcventure I ... The Romans, age 10-12 SHER £25
Arcventure II ... The Egyptians, age 8-9 SHER £25
Arcventure III ... The Vikings, age 7-11 SHER £25
Armlock DIGS £33
ArtWorks COMC £119
ArtWorks CD COMC £143
ArtWorks Made Easy DABS V0 £15
AudioWorks COMC £45
Basic Wimp Programming DABS V0 £15
BBC Basic Reference Manual ACOR V0 £22
Beginner's Guide to Wimp Programming on the Archimedes SIGM V0 £13
Betsi, age 7-12 4MAT £32
Birds of War (not Risc PC) FOUR £24
Bitfolio Cartoon Graphics LOOK £17
Bitfolio Clip Art Library CD LONG £47
Black Angel FOUR £24
Blinds QUAN £24
Bodywise, age 9-14 SHER £37
Break 147 & Superpool FOUR £24
C (new edition) DABS V0 £16
CADet, KS3,4 MINE £99
Cambridge Pascal OAKS £63
Cannon Fodder KRIS £19
CardShop CLAR £19
Chaos Engine RENE £19
Chartwell BEEB £23
Chatter 4MAT £30
Chocks Away Compendium (not Risc PC) FOUR £25
Chuck Rock (not Risc PC) KRIS £8
Classcardz for Resultz COLT £20
Classcardz for Wordz COLT £20
Clip-Art CD COMC £18
Compression COMC £31
Crystal Maze, age 7-70 SHER £28
Crystal Rain Forest, age 8-11 SHER £33
Cyber Chess FOUR £24
Darryl the Dragon, KS1,2 4MAT £18
DataPower IOTA £123
Demon's Lair FOUR £18
Design Processor OAKS £1150
Desktop C ACOR £125
Desktop Folio, KS1-4 ESMO £57
Desktop Thesaurus BEEB £17
DInosaur Discovery, KS2 4MAT £25
Disc Rescue LOOK £28
Draw Print & Plot OAKS £28
DrawBender (not Risc PC) ICSO £10
Dungeon FOUR £24
E-Type 2 FOUR £25
E-Type Compendium FOUR £18
Easy C BEEB £55
Easy Font FABI £24
Enter the Realm (not Risc PC) FOUR £18
Eureka 2 LONG £92
Event EXPL £21
Eye for Spelling, KS1,2 ESMO £31

POSTAGE IS FREE
FOR PREPAID SALES IN THE UK

Find It! APPI £34
Fireworkz COLT £89
First Logo, KS1,2 LONG £21
First Page, KS2-4 LONG £42
First Steps in Programming Acorn RISC OS Computers SIGM V0 £15
First Words with Smudge, age 4+ STOR £20
Flashback USGO £21
Flossy the Frog, KS1 4MAT £23
Flossy the Frog Art Disc 4MAT £10
Font Directory LOOK £28
Fontasy ICSO £15
Fontasy / DrawBender / Placard ICSO £30
FontFX DATS £10
Freddy Teddy TOPO £14
Freddy Teddy: Balloons & The Zoo TOPO £20
Freddy Teddy: The Playground TOPO £23
Freddy Teddy: The Puddle & The Wardrobe TOPO £18
Freddy Teddy's Adventure TOPO £14
Fun School 3, age 5-7 EURO £18
Fun School 4, age 5-7 EURO £18
Genesis Professional OAKS £112
Genesis Project OAKS £47
Gods (not Risc PC) KRIS £8
Goldilocks OAKS £38
Granny's Garden 4MAT £23
GridPro 4MAT £35
Hard Disc Companion II BEEB £42
Hatchback 4MAT £32
Hearsay II BEEB £59
HeroQuest KRIS £20
Home Accounts MINE £27
House of Numbers CHAL £20
Illusionist CLAR £40
Image Animator IOTA £46
Image Outliner IOTA £46
ImageBank Picture Compression Library IRLA £26
ImageFS ALTE £34
ImageMaster PILL £24
Impression Borders Pack 1 FABI £10
Impression Borders Pack 2 FABI £10
Impression Publisher COMC £129
Impression Style COMC £76
Impression Style site licence COMC £435
Investigator III VERT £42

NO CHARGE FOR CREDIT CARDS

James Pond (not Risc PC) KRIS £8
James Pond 2 + GAME £19
JPEG & PhotoCD Loaders COMC £38
Junior Database, KS1-3 IOTA £45
Junior PinPoint, KS1,2 LONG £25
Kid Pix, KS1,2 ESMO £34
Knowledge Organiser 2 CLAR £63
Landmarks - Aztecs, KS2,3 LONG £21
Landmarks Microworlds - The War Years, age 9-13 LONG £22
Lemmings KRIS £17
Lemmings II (Tribes) KRIS £20
Lemmings & Oh No! More Lemmings KRIS £23
Logo, KS1-4 LONG £55
Lotus Turbo Challenge 2 (not Risc PC) KRIS £18
MacFS COMC £76
Magic Pockets RENE £18
Magpie LONG £50
Manchester United Europe (not Risc PC) KRIS £8
Masterfile III BEEB £43
Maths Circus 4MAT £25
Maths Odyssey COMT £40
Morpheus OREG £29
Naughty Stories Volume 1 (set of 6), age 5-7 SHER £39
Naughty Stories Volume 2 (set of 6), age 5-7 SHER £39
NightSky CLAR £63
Noddy's Playtime JUMP £18
Notate, KS2-4+ LONG £49
Oak PCB II OAKS £66
Oh No! More Lemmings (requires Lemmings) KRIS £15
Ovation BEEB £68
Oxford Reading Tree Stage 2 Talking Stories, age 5-7 SHER £37
Oxford Reading Tree Stage 3 Talking Stories, age 5-7 SHER £37
PC Emulator 1.8 ACOR £92
PenDown, KS1-3 LONG £45
PenDown Plus, KS2-4 LONG £67
Personal Accounts V3 APRI £38
Photobase: Landscapes LONG £47
Photobase Decades:
– The 1920s LONG £47
– The 1930s LONG £47
– The 1940s LONG £47
– The 1950s LONG £47
– The 1960s LONG £47
Photodesk SPAC £157
PhotoTouch OREG £64
PinPoint 2, KS3,4 LONG £79
PinPoint 2 Datafile 1851 Census, KS3,4 LONG £13
PipeDream 4 COLT £85
Placard ICSO £10
Plot CLAR £63
PrimeSolver, KS1-4 MINE £74
ProArtisan 24 CLAR £125
ProCAD, KS4 MINE £450
Programming in ANSI Standard C on the Archimedes SIGM V0 £15
Prophet (requires 2 Mb) APRI £145
QuicKey ICSO £10
Recordz COLT £97
Render Bender 2 (not Risc PC) CLAR £40
Rephorm OAKS £45
Repro OAKS £46
Resultz COLT £75
Rhapsody 3 CLAR £74
RISC OS 3 Applications Upgrade ACOR £10
RISC OS 3 First Steps DABS V0 £15
RISC OS 3 Programmer's Reference Manual ACOR V0 £99
S-Base 2 Developer LONG £189
S-Base 2 Personal LONG £105
Saloon Cars Deluxe (not Risc PC) FOUR £24
Schema 2 CLAR £95
Score Draw CLAR £44
Scrabble USGO £20
Sensible Soccer RENE £19
Serenade CLAR £75
ShapeFX DATS £10
Sibelius 6 SIBE £149
Sibelius 7 SIBE £789
Sibelius 7 education and amateur price SIBE £464
Sim City KRIS £22
Sim City 2000 KRIS £31
Simon the Sorcerer GAME £31
Sleuth BEEB £50
Smudge the Spaniel, age 4-8 STOR £19
Somerset Talking Computer Project Learning Materials LONG V0 £29
Space City, age 7-9 SHER £24
SparkFS PILL £20
Special ICSO £10
Speedball II KRIS £18
Squirrel 2 DIGS £120
Stunt Racer 2000 (not Risc PC) FOUR £24
Talking Clocks TOPO £32
Talking PenDown, KS1-3 LONG £53
Titler CLAR £79
Topographer CLAR £59
Touch Type IOTA £38
Trace PILL £9
TurboDriver Canon COMC £39
TurboDriver Epson Stylus 800 COMC £39
TurboDriver HP COMC £39
Twain Canon IX incl Scan-Light Professional PILL £16
TWO (Task and Window Organiser) ICSO £10
VersaTile OAKS £42
Virtual Golf (not Risc PC) FOUR £23
WorraCad OAKS £65



0151-625 1006

Risc PC 600

Risc PC 600 2M HD210 14" Monitor	ACOR	£1245
Risc PC 600 2M HD210 17" Monitor	ACOR	£1645
Risc PC 600 5M HD210	ACOR	£1145
Risc PC 600 5M HD210 14" Monitor	ACOR	£1395
Risc PC 600 5M HD210 17" Monitor	ACOR	£1795
Risc PC 600 9M HD420	ACOR	£1445
Risc PC 600 9M HD420 14" Monitor	ACOR	£1695
Risc PC 600 9M HD420 17" Monitor	ACOR	£2095
Indigo CD Rom Drive CAA300iA	CUMA	£246
Pc Card (includes Novell DR DOS) for Risc PC, special offer	ACOR	£99
Risc PC 2 Mb VRAM	ACOR	£195
SCSI II Interface for Risc PC	CUMA	£195
Ultimate CD ROM Dual Speed for Risc PC 600	HCCS	£188
Wizzo SyQuest 105 Mb Complete Package for Risc PC	ICSO	£299
Wizzo SyQuest 270 Mb Complete Package for Risc PC	ICSO	£499

Portables

A-Link	ACOR	£43
Flash Disc 256K	ACOR	£46
Pocket Book 256k	ACOR	£165
Pocket Book II 256k	ACOR	£228
Pocket Book II 512k	ACOR	£278

Printers

A4-1200/1 Direct Drive Laser Printer	CALL	£989
Bubble Jet BJ-10sx	CANO	£149
Bubble Jet BJ-200	CANO	£210
Bubble Jet BJC-600	CANO	£359
DeskJet 500C	HEWL	£265
DeskJet 520	HEWL	£219
DeskJet 560C	HEWL	£365
EP-L Toner Cartridge for LBP-4	CANO	£59
EP-S II Toner Cartridge for LBP-8	CANO	£69
Laser Direct HiRes4	COMC	£748

ICS A3000 series hard disc upgrades

PLEASE SPECIFY OS 2 OR OS 3

60 Mb	£190
80 Mb	£199
120 Mb	£235
240 Mb	£375
Internal Interface only	£75

ICS Archi range hard disc upgrades

PLEASE SPECIFY OS 2 OR OS 3

200 Mb	£225
240 Mb	£250
330 Mb	£299
420 Mb	£345
540 Mb	£449
1000 Mb	£699
Internal Interface only	£60

ICS Hard discs



80 Mb 2½" IDE	£139
120 Mb 2½" IDE	£175
200 Mb 3½" IDE	£175
240 Mb 3½" IDE	£200
330 Mb 3½" IDE	£249
420 Mb 3½" IDE	£295
540 Mb 3½" IDE	£399
1000 Mb 3½" IDE	£649

ICS Removable hard discs

Wizzo SyQuest 105 Mb Complete Package	£275
Wizzo SyQuest 270 Mb Complete Package	£475
105 Mb 3½" IDE Removable Hard Disc Cartridge	£58
270 Mb 3½" IDE Removable Hard Disc Cartridge	£68

Memory

A3000 1 - 2 Mb, upgradable	IFEL	£58
A3000 1 - 4 Mb	IFEL	£113
A3020 / A4000 2 - 4 Mb	IFEL	£74
A5000 2 - 4 Mb	IFEL	£70

Other hardware

486 PC Card 25 MHz 4 Mb	ALEP	£514
486 PC Card 50 MHz 4 Mb	ALEP	£591
Backplane, 4-slot 4-layer with fan	IFEL	£55
Dongle Dangle with screw fittings	ICSO	£6
Eagle M2	COMC	£319
Fan Filters (pack of 10) (not A5000)	ICSO	£6
Lark A16	COMC	£195
Micro Mouse	CLAR	£24
Midi Max	COMC	£68
Power Pad (Dual)	GAME	£33
Power Pad (Single)	GAME	£25
RISC OS 3 Software Upgrade Kit	ACOR	£77
Scan-Light 256	COMC	£185
Scan-Light Video	COMC	£199
Scan-Light Video A3000/A4000	COMC	£199
SVGA High Resolution Multiscan Monitor 14"	ACOR	£315
SVGA High Resolution Multiscan Monitor 14", bought with computer	ACOR	£250
Vision 24 508 line A3000 external	HCCS	£147
Vision 24 508 line A3000/3010/3020/4000 internal	HCCS	£134
Vision 24 508 line A5000/400/300/RPC600	HCCS	£134
Wizzo5 for A5000	ICSO	£39

Lucky £13

Battlechess	KRIS	£13
Chopper Force (not Risc PC)	FOUR	£13
Heimdall	KRIS	£13
Pandora's Box (not Risc PC)	FOUR	£13
Populous	KRIS	£13
Zarch	SUPE	£13

Bargain basement

1060 Mb SCSI Hard Disc, Micropolis		£499
1st Paint	RESO	£19
Access for A3020/A4000	ACOR	£129
Acheton/Kingdom of Hamil	TOPO	£5
Atelier, KS2-4	MINE	£15
Bambuzle + Blitz	ARXE	£5
Bug Hunter / MoonDash	MINE	£5
Carnage Inc. (not Risc PC)	FOUR	£11
Castle of Dreams, age 7-11	STOR	£14
Citizen Swift 24 Printer, ex-demonstration		£199
ColourBurst	STAT	£299
Cyborg	ALPI	£10
First Words and Pictures	CHAL	£14
Freddy's Folly (not OS3)	MINE	£3
Good Impression	WORD	£15
Graphics Library		£3
History Costume	MICS	£3
HiVision colour A3000/3010/3020/4000 internal	HCCS	£99
Impact!	CIRC	£29
Impression Business Supplement	COMC	£5
Karma	PERI	£10
Monotype Fonts (Pack 1)	LOOK	£49
Nebulus (not Risc PC)	KRIS	£9
Noot	4MAT	£29
Note Invaders	CHAL	£11
PlayBack	BEEB	£11
ProArtisan 2	CLAR	£50
Real McCoy 3	FOUR	£14
Real McCoy 4	FOUR	£15
Rhythm-Bed	CLAR	£29
Scan-Light Professional	COMC	£449
Schedule	ACOR	£11
Science	MICS	£10
Split an Image, age 7-16	SHER	£10
Technodream (Nevryon 2)	SUPE	£11
TinyPuzzle	TOPO	£11
Words and Pictures	CHAL	£11

We supply a full range of Acorn products
Please call for prices

HOW TO ORDER

Carriage is free within mainland UK if you pay on ordering.

Cheques should be made payable to Ian Copestake Limited.

You may also pay by ***credit card***, ***debit card*** or ***Switch***. We normally make ***no charge*** for this, and take no payment until goods are despatched. We need your address as known to the card issuer.

If you leave an order on our ***answering machine*** please include your telephone number, your card number and its expiry date (and issue number if any), and your calculation of the total payment due.

Official orders are welcome from UK educational and government institutions (invoices are due for payment within 14 days and are subject to carriage and late payment charges).

VAT is not included. Zero-rated items are marked V0. UK customers please add 17½% to all other prices. EC customers outside the UK please do the same unless you are VAT-registered, in which case quote your international VAT number. Ours is GB 595 7258 84.

Overseas carriage: If you are paying by credit card we will add airmail and insurance at cost. Otherwise please add £6 (Europe) or at least £12 (elsewhere) for each software item and send a pounds sterling bank draft payable at a London clearing bank, or Eurocheques for not more than £100 each.

All products, prices and specifications are offered in good faith and are subject to change without notice. We process all orders immediately, but suppliers do sometimes keep us waiting. Goods are guaranteed but we do not supply them on approval. Returns and cancellations can only be accepted by prior agreement and there may be a charge to cover the costs involved.



Authorised Acorn Dealer and Developer

Please make cheques payable to Ian Copestake Limited

Dept U10, 1 Kington road, West Kirby, WIRRAL, Merseyside, England, L48 5ET

Tel: 0151-625 1006 Fax: 0151-625 1007

E&OE U10 94NO11

why...

KEEN PRICES	You will have to look hard to find better prices than ours. If you do we will try to match them. If you see a cheaper price, check whether it includes postage. Ours do for prepaid UK orders. Check whether the	supplier accepts credit cards free of charge. And think twice about advertisers who give no telephone number or use PO Box addresses. How will you deal with any problems which arise?
WIDE CHOICE	Our monthly advertisements show a selection from well over 1000 Acorn products in our full list. We probably carry a wider range of stock than any other magazine advertiser. If something is not in	our main list we will try to obtain it for you. Simplify your purchases with one-stop ordering from the company with the most to offer.
SPEED	About half our orders are despatched the same day, and we are always looking for ways to improve our system. We list many	of the less common products and these may sometimes take a little longer to reach you.
USER-FRIENDLINESS	People who telephone for the first time often tell us what a pleasant change it makes to speak to our helpful staff. If you	are new to computing we will be happy to suggest products to suit your interests and your pocket.
SUPPORT	We will always give you the very best advice we can. If we don't know the answer we won't pretend we do or try to blind you with science. We won't try to	sell you a £100 product if we believe a £20 item is better. And we won't refuse to talk to you if you have a problem later.
EDUCATION DISCOUNTS	Many of our *normal* prices are already lower than the special education prices offered by some publishers. But we can offer further discounts for quantity purchases. Please don't make the mistake of assuming it will be cheaper for you to buy direct from a publisher or through your local authority. Always check with us!	If you *are* a local authority and do not already buy from us, now is the time to change. Site Licences for most products are available from us at competitive prices. We have a long history of supplying to education and will offer you a service tailored to your needs.
DEALER DISCOUNTS	If you are an Acorn dealer it might be worth asking us to quote for your next software order.	We buy more of some products than the main distributors do.
CONTINUING IMPROVEMENT	We are continuing to make improvements in our efficiency and customer service. Please write to us if you have any suggestions to make. For example, would you like a two-tier service with an extra	charge for extra speed? Or an answering machine dedicated to credit card orders? We are on the lookout for sales and other staff – could you be answering our telephone soon?
OUR AMBITION	Your money and your satisfaction. And we don't want one without the other.	

...buy ICS

Authorised Acorn Dealer
Tel 0151-625 1006
Fax 0151-625 1007

For free price lists write to ICS (Ian Copestake Limited)
Dept U8C, 1 Kington road, WIRRAL, Merseyside, England, L48 5ET



News

More visitors, no PC card

DESPITE optimistic noises from Acorn during the run up to the Acorn World show at the end of October, Acorn failed to show a working Risc PC PC co-processor at the event. Acorn sources insisted that the crucial custom chip for the card, which was being fabricated in Korea, had only missed the show by a matter of days. Although there were a few grumbles that Acorn had boosted the show through the over-optimistic expectation that the card would debut at it, there was remarkably little adverse reaction from the Acorn community as a whole.

To reassure everyone of its commitment to the PC card, Acorn announced a deal, just prior to the show, with IBM's Blue Micro manufacturing division to manufacture at least 10,000 of the cards by the end of March 1995. There is also a firm promise from Acorn to start shipping 500 evaluation cards from December this year. IBM will also supply its own flavour of DOS.

As Acorn's product marketing manager Peter Bondar points out, DOS is just the start: 'The Risc PC can now run MS DOS and *Microsoft Windows* on the PC card and it is intended that the card will also support many different versions of UNIX.' He added that IBM's multi-tasking graphical OS, OS/2 would also be supported.

On the morning of the first day at Acorn World '94, Acorn's sales and marketing director, Mike O'Riordan, said he expected over 12,000 visitors over the three days – advance ticket sales had already been a quarter up on 1993. O'Riordan's prediction proved to be spot on with just over 12,500 recorded visitors, compared with 11,000 in the previous year.

The new Acorn Clan club proved to be immensely successful with queues of punters signing up for a membership which offered a Clan sweatshirt and tee-shirt (alas only for show visitors), plus access to privileged advance product information and special offers. Acorn also announced its attention to offer members a unique Acorn Visa credit card. Even as the show was closing on the evening of its final day, there was still a queue at the Clan stand and Acorn revealed that over 1000 visitors had signed up during the show.

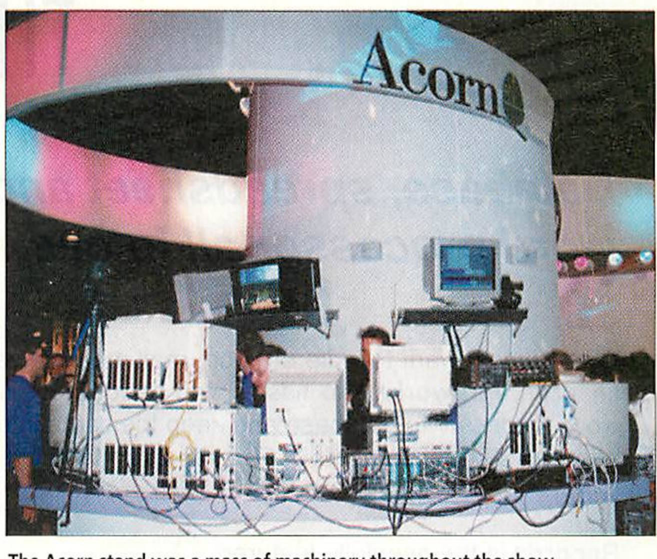
Last year Acorn invited Novell to give some talks at the show about PC networking and this year the same theme was followed, with a pair of PCs connected up to an AUN network to act as *Windows NT* servers. There were further solutions for connecting Acorns into a PC network over on the ANT stand. Also on the ANT stand was Patrick Arnold's PC expansion card board for Acorn computers. Atomwide has adopted the ISAdapter card and Arnold reports the first shipments should be ready before the end of the year, probably priced in the region of £200. It could be a hit with Risc PC users running the new PC co-processor.

Another potentially interesting item which didn't make the show was a multiple ARM-processor board being built by Simtec in conjunction with Acorn. The card adds four extra slots for ARM processors in addition to the existing main ARM processor slot and the Open Bus co-processor slot. Simtec says that it hopes to have a working prototype by the end of November. Experiments with operating systems, including the new TAOS platform for multi-processor hardware, can then begin.

There was plenty of interest in Simtec's new patent-pending DRAM Memory Modules for the Risc PC and other computers. These are similar to SIMMs but have special sockets to enable a user-upgrade when extra memory is required. Over at the Colton Software stand the new *Recordz* database was on show, but unfortunately the revised *Fireworkz Professional* integrated all-in-one suite, which includes *Recordz, Wordz* and *Resultz* was only being demonstrated in prototype form and won't be ready until the end of the year. Other companies doing brisk business were Beebug with its new *Easy C++* compiler, Neurotron Software with the latest version of its *Optical* OCR package, while Computer Concepts sold out of its entire first batch of *Movie Magic* MPEG multimedia cards.

From the exhibitors' point of view, most had a good show. Castle Technology's Jack Lillingston told *Acorn User* all his company's show costs had been covered by the end of the second day. The main attractions on the Castle stand were a flat screen 15in Samsung monitor for just £250, an Archimedes light pen and a low-cost 24-bit colour flat bed scanner.

Meanwhile, Acorn reported that big name companies like Cumana, Longman Logotron and Nelson Multimedia had already committed to booking space for next year's show. Even newcomers 3SL and *The Guardian* newspaper reported a favourable response to their exhibits. The show was a success, but one wonders whether it might have been a *truly* great show if that elusive PC card had been top of the bill.



The Acorn stand was a mass of machinery throughout the show.

Wonders of Risc PC

AT AN Acorn World feature called the Acorn Workbench, several fully-expanded Risc PCs groaning with add-ons were being demonstrated by Acorn staff, including the ebullient Peter Bondar who has masterminded the marketing of the Risc PC.

With something like 20 Risc PC slices to fill, they discovered one remained empty so they fitted it with an electric toaster just for fun.

One particular Risc PC, dubbed the 'Rocket Ship', was fitted with a 50MHz ARM710 main processor, a 50MHz original-style Aleph One 486 PC podule, 96Mb system RAM, five drives comprising a mix of SCSI and IDE drives totalling almost 13Gb storage, three Pioneer quad-speed CD-ROM drives, an 88Mb Syquest removable drive, a 230Mb Magneto optical drive, an 8Gb DAT tape streamer, two 32-bit DMA SCSI interface cards and single Ethernet network card.

Another machine with nine slices was fitted out as a multimedia station, complete with two Irlam capture boards, a Computer Concepts Eagle card, built in CCD camera and a Nikon 35mm digitiser, among other items.

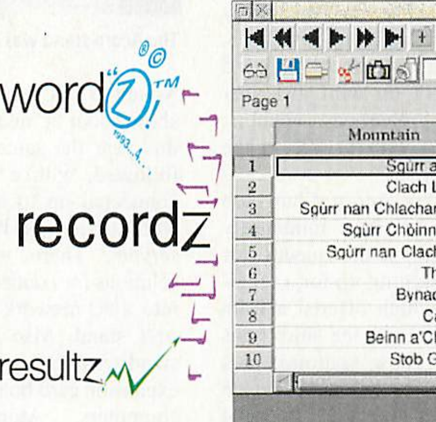
Full Integration

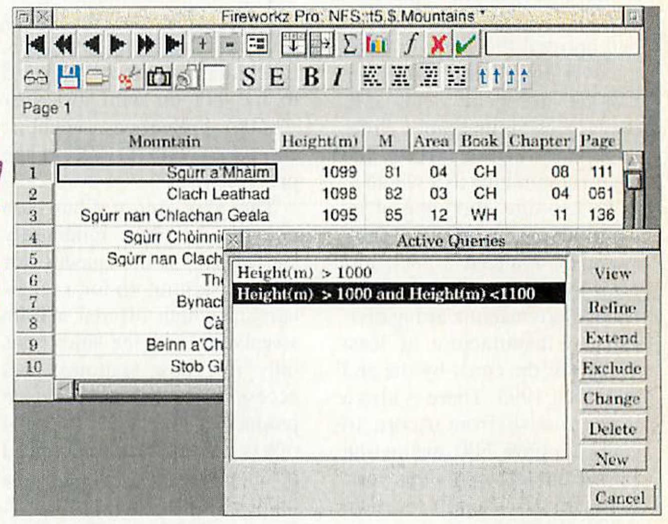


Database, spreadsheet and word processor all in one

Whether you want to write a report, mail merge a database, create a table, draw a chart or calculate personal finances, **Fireworkz Pro** has all you need. Move seamlessly from spreadsheet to word processor and from word processor to database and keep the same intuitive interface throughout. Data can be shared and moved between all three aspects of Fireworkz Pro, combining power with ease of use.

Recordz is the new fully featured database from Colton software. Flexible options include card index or spreadsheet layout, refinable search queries, easy label printing and mail merging. The only limit to the size of your database is your available disc space. The search language is very simple, with choices such as 'contains' or 'does not contain' - there are no complex commands to remember.





Recordz shares the excellent Z family user interface, making it one of the friendliest databases ever created. The status line helps you with choices and the emphasis is on ease of use throughout the program. Combined with Wordz (word processor) and Resultz (spreadsheet) Recordz forms Fireworkz Pro. Buy Recordz on its own for just £99 or as part of Fireworkz Pro for £149. Recordz site licences start at £198 (10 user), Fireworkz Pro site licences start at £298 (10 user).

- Fireworkz users can upgrade to Fireworkz Pro for only £49
- PipeDream 4 users can upgrade to Fireworkz Pro for £99
- **Fireworkz for Windows** is now available – existing Fireworkz (RISC OS) users can purchase this for £50
- **ClassCardz** - A4 laminated learning cards are now available for Wordz and Resultz at £20 per photocopiable set

If you would like to order or wish for more information and a free demo disc, please contact us at the address below. Or clip the coupon and return it to us.

We accept Access and Visa. Cheques should be made payable to Colton Software. All prices exclude VAT and delivery (P&P £5).

COLTON software

Tel 01223 311881

Name		Please rush me:	Tick✓
Address		Fireworkz pro info & demo disc	
		Recordz info & demo disc	
		Fireworkz for Windows info & demo disc	
Postcode		ClassCardz info	

Colton Software, 2 Signet Court, Swann's Road, Cambridge, CB5 8LA. Tel +44 (0) 1223 311881. Fax +44 (0) 1223 312010. Email: info@colton.co.uk

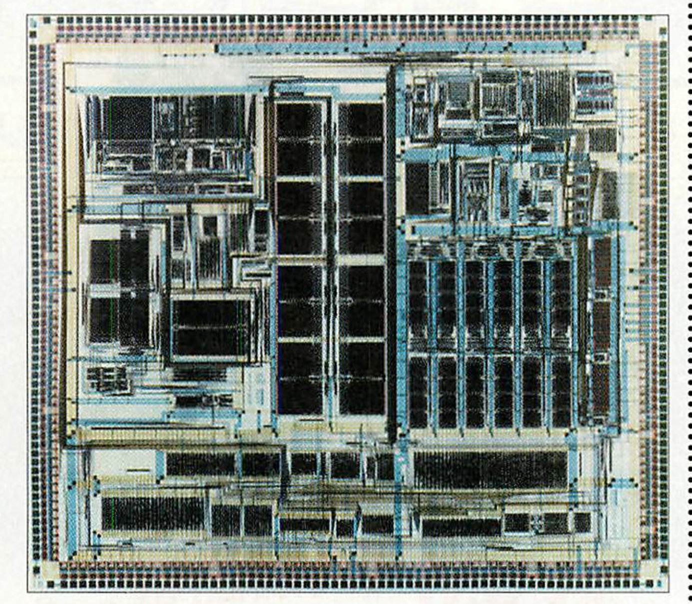
ARM announces new integrated 7500 chip

AS predicted, ARM Ltd has produced a second generation 'computer on a chip' based around an ARM7 core. The new ARM7500 follows the example set by the ARM250 first seen two years ago when Acorn launched the A3010/3020 and A4000 machines.

The ARM7500 chip contains an ARM7 core with a 4K instruction cache, write buffer, sound and video interface and an I/O and memory controller. The video sub-system has up to 32-bits per pixel support like the VIDC20 used in the Risc PC, and a 120MHz pixel clock rate. LCD support is included too.

The chip remains close to the ARM philosophy of low power consumption, and flexible clocking is featured along with an idle mode and a system halt mode. Also on-chip are a pair of serial ports, four analogue to digital converters and 16-bit PCMCIA compact expansion card support.

The 7500 is no lightweight at 549,705 transistors, but that's still less than half the number of transistors an Intel 486 processor needs and will still consume just half a watt of energy in a portable application. ARM Ltd says the ARM7500 is a very cost-effective design. VLSI Technology will manufacture the chips using a 0.6 micron process and the first samples will be available in the first quarter of 1995. Its applications could be numerous and it has already been decided to use the chip in the next generation of Online Media interactive multimedia set top boxes.



The ARM7500 integrated chip. Could we be seeing this in a new Acorn machine soon?

Acorn has not announced its application for the ARM7500 yet, but the obvious candidates are a replacement for the ageing A4 notebook and revised A3000 and A4000 models.

Fortran news

Eastleigh-based Intelligent Interfaces, who specialises in industrial, scientific and medical markets, has released the *IGLib* Fortran Graphics Library for the Risc PC, giving users full access to the added colour graphics capabilities of the Risc PC. *II* has already used the new library to update its implementation of the screen driver for the *Gino-F* industry standard Fortran graphics library.

Intelligent Interfaces Ltd
Tel: (01703) 261514
Fax: (01703) 267904

Acorn at BETT'95

Acorn's theme for BETT'95 in January is to be 'The Whole School.' This refers not only to the school itself, but to resources extending beyond into the home, local community and on to the Information Superhighway. A new range of e-mail and Internet-related products will be showcased and Online Media interactive multimedia technology will be highlighted as well. Phase II of the Acorn Advantage scheme, enabling parents to help their kids' schools when buying Acorn goods, will be announced at the show. Special Needs, Integrated Learning Systems and Multimedia will also be featured by Acorn at the show.

PaperOut distributor

CUMANA has struck a deal with Tools GmbH in Germany to distribute *PaperOut*, the RISC OS Electronic Book (EB) data retrieval software compatible with the Sony EB standard for 8cm mini CD-ROMs. EBs can contain up to 100,000 pages of text, 32,000 simple images, or up to five hours of compressed audio.

200 EB publications have been produced in the last five years. Besides distributing the *PaperOut* retrieval software itself, Cumana will also be marketing a range of EB titles.

Cumana
Tel: (01483) 503121
Fax: (01483) 451371

Acorn posts loss but outlook is bright

AT THE half-way point in its financial year, Acorn has revealed a £2.2 million deficit, putting it back into the red for the first time since 1992. Ironically, turnover maintained a small but steady rise by increasing from £23.6 million in 1993 to £23.7 million in 1994. However, last year Acorn at least managed to scrape a small profit.

Investments in the Risc PC launch and the setting up of Online Media are obvious clues to the reason for the red ink. However, more serious are rumours in the trade that Acorn has a large pile of unsold stock, mainly A3010s, which would account for a series of special offers announced this month.

The loss would have been much worse but for a contribution of £0.5 million from Acorn's share in ARM Ltd. However, the outlook is bright: Risc PC sales have been better than expected, the Pocket Book 2 has been received extremely well and there should be less effect from exceptional outgoings. Unfortunately, the Risc PC 486 co-processor, which might have boosted sales in the second half of this year, will now no longer figure in the equation.

Prize quest

The Concept Keyboard Company and SEMERC have combined to launch an initiative to find new high quality learning materials which can be applied to the new Informatrix overlay keyboard. The best submissions from teachers will be examined and a winner chosen. The prize is a SEMERC custom-configured Risc PC, to be presented at BETT'95.

The quest is primarily for good curriculum content; artistic ability is not essential as an in-house graphic artist will produce the final artwork.

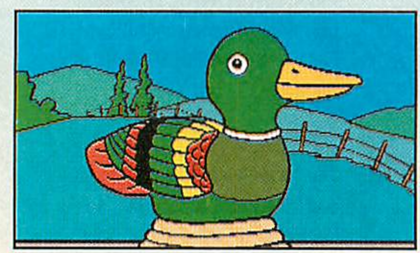
Even if you don't win, good runner-up materials might possibly be licensed earning thousands of pounds in royalties. For more information, contact Martin Littler at Northwest SEMERC.

Tel: (0161) 627 4469
Fax: (0161) 627 2381

THE CRYSTAL MAZE



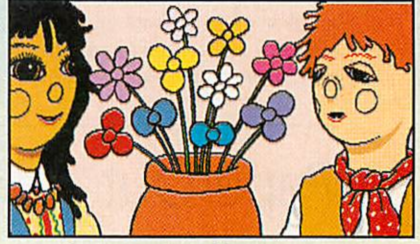
ROSIE AND JIM TALKING ACTIVITIES



Duck loses his Quack

The two cheeky rag dolls from the record breaking television series for pre-school children are now available on Acorn computers using Sherston's extremely successful talking book technology





Jim gets the Sneezes

£11.75 each inc. VAT

Rosie and Jim is a Ragdoll production for Central Television



We've moved . . . please note our new address:

Sherston Software Limited,
ANGEL HOUSE
Sherston, Malmesbury,
Wiltshire, SN16 0LH
Telephone 01666 840433 Fax 01666 840048

Write or phone now for your free copy of our new full colour catalogue containing over 70 exciting titles

Please make cheques payable to Sherston Software Ltd.




Access and Visa welcome.

All prices include VAT and carriage within the UK.

South Africa – a land of hope and glory?

WELL, for Acorn it certainly is. South Africa is now Acorn's fastest growing international market. If you were wondering why there was such a shortage of Risc PCs after the system was launched, you can probably blame it on the South Africans who were ordering these sought-after systems by the ship, plane and truckload.

Unlike Germany, in which Acorn invested considerable sums of money in an attempt to boost its market share, the South African market has taken off very much by itself. Its growth has been fuelled by the drive and determination of the Acorn distributors, dealers and key users around the country. These people also have a steadfast belief that whatever the Macintosh can do the Risc PC can do as well or better.

The South Africans were out in force at Acorn World '94. The group of approximately 20 key people brought over



The South African group at Acorn World '94.

samples of work being done on Risc PCs in South Africa. Suffice it to say, many of the British software and hardware developers, and even some of Acorn's own staff, were left in a state of shock and disbelief after seeing the professional quality of the material being produced using their own software and equipment. Try and imagine full-colour glossy property supplements from national newspapers being produced from start to finish on the Risc PC in this country. One of South Africa's largest estate agents, which has been using Acorn equipment for several years, already does this on a weekly basis. If you want to see innovative uses look no further than South Africa. There's a package available over there for plastic surgeons which allows them to show patients in a manner of seconds what they'll look like after they've had their nose job. The system uses Oak Solutions' *Rephorm* morphing application.

For one insider's perspective on the South African Acorn market – where it's come from, where it's going – read the Moxon interview in this issue.

A larger rodent

COYPU is the name for a new versatile graph plotting program for Acorn computers from the Shell Centre for Mathematical Education in Nottingham. *Coypu*, the follow-up to *Mouse Plotter*, is designed for secondary school maths, with possible uses in other classes. Cartesian, polar and parametric functions can be plotted, implicit functions can be handled directly, functions can be applied to data fields and graphs can be exported as *Draw* files.

A single-user licence is priced at £60, or £40 for upgrades. School licences are priced at £120 and £100 respectively, and these prices include postage but not VAT.

Shell Centre
Tel: (01159) 514991
Fax: (01159) 791813
E-mail: daniel.pead@nottingham.ac.uk

Risc PC multimedia system



The Acorn Risc PC CD-ROM system from Cumana, a complete multimedia system for home and school use.

AFTER putting together almost every conceivable configuration of CD-ROM for the Risc PC, from low cost SLCDs to ultra-fast multi-disc quad-speed drives, Cumana has taken the next logical step and launched a Risc PC with one of its drives already fitted. The new package includes a Risc PC with 5Mb RAM, a 210Mb hard disc and an integral Cumana Indigo CD-ROM drive.

The Photo CD-compatible drive features Cumana's unique audio CD and computer audio mixer facility. With a 14in monitor and starter software pack, the price is £1599 + VAT.

At the other end of the range there is a 17in monitor option complete with NCET Primary bundle for £2399 + VAT. Alternative software bundles are also available.

Cumana
Tel: (01483) 503121
Fax: (0483) 451371

New name for Vertical Twist

Independent developer Vertical Twist has shortened its name to VTI. VTI director Andrew Foyle said that the old name had possibly become a little off-beat as the Acorn market had matured. All other details, including address and phone numbers, remain unchanged. At Acorn World the company launched a new 700 instrument MIDI music card called the VTX-2000 and some low-cost CD-ROM drives.

VTI sibling company Eclipse is to start direct sales of its games titles including *James Pond 2* and the Power pads, thus severing an arrangement with Gamesware set up by former Acorn manager, Simon Lovesey. Free Eclipse demo discs are available on request.

VTI/Eclipse
Tel: (01243) 531194
Fax: (01243) 531196

Minerva on the Infobahn

Minerva Software has spawned an off-shoot in the form of Zynet Ltd, which is to become an Internet service provider for the education market. Crucially, Zynet will be able to connect both existing school LANs and individual computers to the Internet. Training courses and starter packs for World Wide Web Internet information publishing on-line will be available.

Zynet Ltd
Tel: (01392) 426160
Fax: (01392) 421762
E-mail: zynet@zynet.co.uk

New from CCS

Creative Curriculum Software will release two new software titles, the *Woodland Birds CD and Spelling Book*, at BETT '95 in January. CCS will also launch the *Mechanisms CD* in the Technology Series and *Maths* (Key Stage 3). Two more as-yet unnamed titles will also be launched at BETT.

Creative Curriculum Software
Tel: (01422) 340524
Fax: (01422) 346388

NEWS

Get tiling with Oak

ONE of the more unusual exhibits at Acorn World was *VersaTile* from Oak Solutions. The package can be used like a computerised building kit to emulate complex tiling patterns often found in ancient buildings, according to Oak Solutions. The software can apply tiling and tessellation operations using both curved and straight guide lines without the need for pre-drawn grids.

A handy by-product is that the software should improve your understanding of rotational, reflectional and translational geometry. Larger tiles can also be made from smaller ones and the software ensures that they all snap together accurately; it sounds like computerised Lego. Once you've created a masterpiece it can be printed or incorporated into another drawing by using the *Draw* file export option. *VersaTile* is priced £45 + VAT.

Oak Solutions
Tel: (01132) 326992
E-mail: us@oakltd.demon.co.uk

A3010 price drop

THE world's cheapest RISC computer just got cheaper. Acorn has knocked £100 off the A3010 model, which represents a 25 per cent cut for the entry-level configuration now priced at £299 including VAT. Various software bundles are offered, the basic £299 outfit consisting of the Action Pack including *Zool*, plus demos of *Lemmings*, *Chuckrock*, *Superpool* and *Fervour*. For an extra £100 there is the Early Years pack launched last month. This includes *Talking StartWrite* and some talking stories titles, as well as junior educational titles like *Flossy the Frog*.

Acorn Computers
Tel: (01223) 254254

HMC BETT preview

SEVERAL new products will be launched at BETT'95 by the Hampshire Microtechnology Centre (HMC). Firstly there is an interactive resource called the Planning Guide to School Development. The guide is a computer program designed to help school managers and teachers plan the development of their schools. Secondly, two new CDs developed in conjunction with Mail Multimedia; *Exploring Earth Sciences – Glaciation*, priced £40 and *Usborne Exploring Science (Physics)* which will cost £75 will be launched.

HMC
Tel: (01705) 378266
Fax: (01705) 379443

PAPERsoft for labels

A NEW Acorn software house, PAPERsoft, has started with its sights set on the label software business. PAPERsoft has actually been set up by our very own education editor, Geoff Preston. PAPERsoft supplies software templates for printing on Paper Direct and Avery™ standard label sheets.

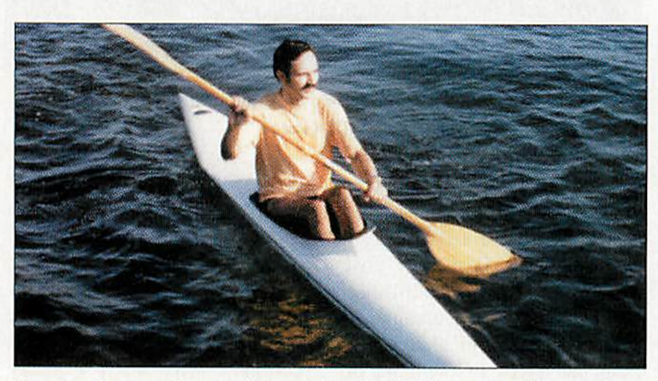
Templates are currently available for *Impression* and *ArtWorks*, with *Advance*, *Ovation* and *First Page* versions under preparation. The Paper Direct set available now includes 90 templates and is priced £29.95, while the Avery™ set, which covers all A4 label sheets, is priced £14.95 and will be available in December.

PAPERsoft
Tel: (01442) 391967

Danish Acorn distributor

ACORN now has a Danish distributor. In Denmark you can get Acorn computers from Kayak Computer. The name stems from the proprietor, Henning Hansen, who is a keen kayak canoeist. With a touch of humour he points out that both his hobby and Acorn computers are ARM-powered.

The old BBC Micro was a popular choice in Denmark, but now only a small hard core of a few hundred enthusiasts still remain faithful to Acorn. Despite this, the Risc PC has been getting a rave press response in Denmark this year, according to Hansen. The only reservation seems to be the lack of PC compatibility, so potential buyers are hanging on for the PC co-processor card. By next year, that excuse will hopefully be gone.



Henning Hansen, director of Acorn's Danish distributor, Kayak Computers.

Kayak Computer
Tel/Fax: (01045) 45 936191

New Suffolk Acorn Club

If you're looking for a computer club dedicated to the Acorn scene in the Suffolk area, you might like to try the newly-formed Suffolk Acorn RISC Club. Meetings are on the second Thursday of each month at the Ipswich Central Library and the £5 membership fee includes a humorous newsletter and access to a growing Public Domain software library which costs £1 per disc.

Suffolk Acorn Risc Club
Andy Keeble (secretary): (01473) 216424
Paul Skirrow (chairman): (01473) 728943

Impression Guide

Kuma Books Ltd has published a book aimed at the tens of thousands of *Impression* users out there. *The Guide to Impression* (ISBN 07457 0298 8), by M.H. de T. Andrews is designed to complement the supplied user manuals and features sectional menu trees for an instant overview of the book's content.

The book also covers the *Impression Style* and *Publisher* versions of the top-sellingDTP package, and is 190 pages long. The price is £14.95.

Kuma Books
Tel: (01734) 844335
Fax: (01734) 844339

Networking your Acorns

Networking is one of those increasingly necessary developments which can be categorised as a black art. A new book, called *Network Acorn*, published by Northwest SEMERC and written by *Acorn User's* very own education editor, Geoff Preston, aims to help teachers and other Acorn computer users set up a local area network.

The book is supplied with a disc of networking utilities and is priced £12. The ISBN No. is 1-899008-04-7.

Northwest SEMERC
Tel: (0161) 627 4469
Fax: (0161) 627 2381

SLEUTH 2

PROFESSIONAL OPTICAL CHARACTER RECOGNITION

THIS NEW VERSION OF SLEUTH TAKES OCR ON ACORN SYSTEMS TO TRULY PROFESSIONAL LEVELS WITH SUPERB NEW FEATURES LIKE AUTO PAGE ZONING, STYLE RECOGNITION, FULLY INTEGRATED SPELLING CHECKER AND GUIDED EDITING.

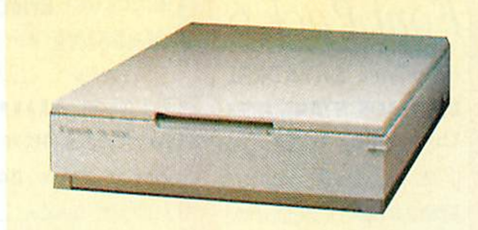
SLEUTH CONVERTS SCANNED IMAGES OF PRINTED MATERIAL AND CONVERTS THEM INTO ASCII FILES. VERSION 2 CAN ACHIEVE OVER 99% ACCURACY ON GOOD QUALITY IMAGES, AND CAN HANDLE VIRTUALLY ALL POPULAR TYPEFACES IN A WIDE RANGE OF SIZES AND STYLES. ALL WITHOUT THE NEED FOR ADDITIONAL TRAINING.

YOU WILL NEED 4MB RAM AND AN ACORN-COMPATIBLE SCANNER WITH A MINIMUM RESOLUTION OF 300 DPI. SLEUTH CAN SCAN IMAGES DIRECTLY USING TWAIN DRIVERS, WHICH ARE AVAILABLE SEPARATELY.

- *Integrated Spelling Checker — checks words as they are converted giving high levels of accuracy.*
- *Recognises Plain, Bold, Italic and Bold Italic styles — recognises and displays different weights and allows them to be exported in RTF format.*
- *Automatic page zoning — can convert entire entire complex pages, containing multi-column text and graphics. It converts the text in a sensible order and ignores the graphics.*
- *Manual page zoning with multiple zones — zones may be drawn around the areas of the image to be converted and links used to specify the correct order. Areas of the image can be ignored using 'Ignore' zones. Zones may be saved in template files for future use.*
- *Guided editing — identifies and locates possible conversion errors for easy correction. It is multi-tasking, allowing corrections to be made whilst converting the rest of the image.*

Flatbed Mono & Colour Scanner Packages from £479

- Compact A4 flatbed scanner. Either the Canon IX3010 300 dpi scanner offering 256 grey levels or the Canon IX4015 400 dpi colour scanner.
- Sleuth version 1.5.
- ImageMaster image processing software & Twain scanner driver.
- Optional SCSI interface & connecting lead. SCSI interface is required to connect the scanner.



Prices

Sleuth 2	£99
Upgrade Sleuth 1 to Sleuth 2	£49
Mono package with SCSI interface	£569
Mono package without SCSI interface	£479
Colour package with SCSI interface	£754
Colour package without interface	£664

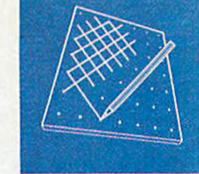
When ordering please state the system you are using. Add £49 if you want Sleuth 2 instead of Sleuth 1.5. Please add carriage of £1.70 for Sleuth 2, £0.85 for Sleuth upgrade and £8 for scanner packages. Please add VAT to all prices.

Sleuth 2 requires RISC OS 3.1 or later.

For more information call 01727 840303 or to order direct call 01727 840305.

BEEBUG

Beebug Ltd. 117 Hatfield Road, St. Albans, Herts. AL1 4JS
Tel. 01727 840303 Fax. 01727 860263



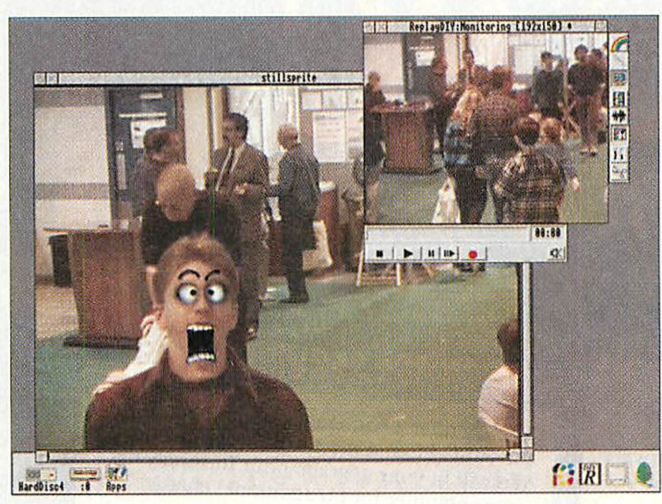
Digital video arrives

DIGITISING and digital video hardware and software has taken a positive leap into the limelight these last couple of months, and at Acorn World a number of products were being demonstrated and sold to the public for the first time. On the video inputting side, Irlam instruments impressed with its 24i16. To all intents and purposes it acts very much like CC's Eagle M2, although it simultaneously digitises 16-bit audio and has the option for a full 1Mb frame store for capturing full-frame PAL sources in 24-bit colour.

Eidos sprung a huge surprise on us by releasing *Eidoscope*, the home user and amateur video editing suite at the show. It does require a Risc PC and digitising hardware like the Eagle M2, but can compress and decompress video from a digitiser in real time, entirely in software.

For quite a remarkable price, practically all the amateur would ever dream of in a video editing system is available and Eidos, with its ever more efficient compression algorithms, could well be a challenger to MPEG in terms of quality.

Only time will tell if this technology will be able to plant firm roots in the same market MPEG has aimed at.



Not only can you grab images in real time, you can also send the images into photo retouching packages, if you haven't already noticed.

The *Eidoscope* video editing software emulates the layout of professional editing suites with perfection, producing all the commonly used effects with remarkable ease. In conjunction with the incredibly powerful Apex Imager video board from Millipede Graphics with its own on-board ARM chip and custom graphics engines, VGA and better quality video can be compressed and manipulated in real time; no mean feat, but neither should it be anything else at £3500 for the Apex Imager and about the same again for the professional Eidos software, *Optima*. It is still a very cost-effective alternative to 'black box' video compression systems.

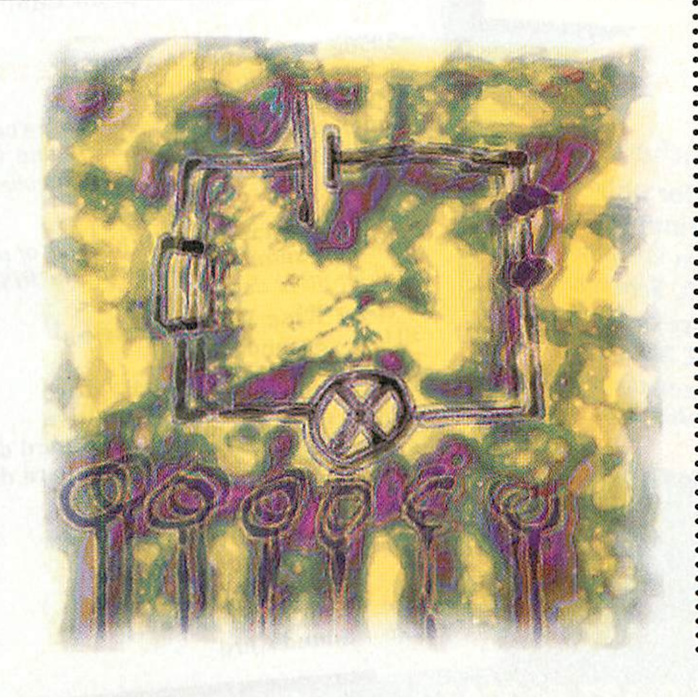
We will be reviewing *Eidoscope* in full depth in the January issue. For the other important digital video launch, Computer Concepts's MPEG video CD card, turn to our feature starting on page 39.

Eidos
Tel: 0181-941 7899
Irlam Instrments
Tel: (01885) 811401
Computer Concepts
Tel: (01442) 63933

Pic of the Month

KANE Clover wins the £20 prize this month. The image entitled *Circuit* was created in *DA's Picture* using the airbrushing and eraser tools to create the initial image. Then – with ingenious use of the cutting and pasting facility – by superimposing the cut image back onto the original at a lower opacity and a little smaller, Kane achieved the stunning effect that you see opposite.

There were many worthy candidates this month, which will all be retained for possible use in future issues.



Pineapple magic

Though small, the Pineapple stand at Acorn World was arguably the best graphics stand per square foot. *Studio24* was being demonstrated by the brilliant Walter Briggs, who is fast becomming renowned for his absolute mastery of the package. The high resolution A6 pressure-sensitive graphics tablet from Eesox was being sold for a fantastic £159, and there was also a bargain bundle with *Studio24* for £239. I believe the offers will remain until around the time you read this, so get your skates on for what has to be one of the best value deals for high quality graphics tools on the Archimedes.

The next version of *Studio24* was also on display. With a completely revised front-end, 16 alpha channels and very fast virtual memory, it really impressed. Other new features include some exotic effects and facilities only seen before on high end PC and Mac products.

Pineapple Software
Tel: 0181-599 1476

Lightning graphics

Another thing to look out for in 1995 which was being previewed at the show is the ARM700 Risc PC card, two of which were superglued into a couple of Atomwide's Risc PCs. *Photodesk*, as well as other programs being shown off at Wembley, were simply flying on the 55Mhz machines.

Atomwide
Tel: (01689) 838852

DA's new modules

As well as demonstrating its fast Epson GT9000 scanner driver, Digital Arts had development software in action capable of very fast and perfectly-rendered distortions, warps and textures.

CGS Computerbild
Tel: 0181-679 7307

Contacting me

You can contact the Graphics page by writing to Jack Kreindler at Acorn User, IDG Media, Media House, Adlington Park, Macclesfield SK10 4NP, or by e-mail to: jack@acornusr.demon.co.uk.

Upgrade... to a RISC PC

with BEEBUG *RISC PC Specialists*

ACORNS LARGEST DEDICATED DEALER

ADVICE AND SUPPORT

We have considerable experience with the RISC PC and can offer you advice on choosing your system and help with software compatibility issues. You may also need some help with RISC OS 3.5. We offer customers free on-going technical support.

UPGRADE SERVICES

Beebug offer a wide range of peripherals for the RISC PC and most are always in stock. We will fit your upgrade prior to supplying your computer for no additional charge

TRADE IN

We make generous allowances for your old Acorn system. We will even take your old system back up to 3 months after your purchase of a RISC PC. Phone for a quotation. Our technical staff will copy your data from your old system to your RISC PC at no charge.

PAYMENT

We offer a number of finance options including teachers Assist and 0% as well as the usual methods. Call for a written quotation.

Beebug are making some exciting offers and giving you the opportunity to TRADE IN *your existing Acorn computer for a* RISC PC

PRICES

Systems include a fast ARM610 processor, 1.6Mb floppy drive, 14" SVGA monitor and 12 months on-site warranty.

Code 3001g	RISC PC 600 2Mb HD210	£1249
Code 3006g	RISC PC 600 5Mb HD210	£1399
Code 3011g	RISC PC 600 9Mb HD420	£1699
For replacement 17" multiscan monitor add		£400

SPECIAL OFFERS

Choose Either...

A 486 PC card for only £25

OR 0% Finance

OR Any four from Ovation DTP, Pipedream 3, Schema, Artisan II, Chess or 10 discs. *Worth* £200

Plus a £25 discount voucher for ProArt 24.

UPGRADES

All fitted free to your new RISC PC

Memory Upgrades

Code	Type	Price
3051c	2Mb DRAM	£ 89.00
3052c	4Mb DRAM	£119.00
3053e	8Mb DRAM	£239.00
3054e	16Mb DRAM	£429.00
3048e	32Mb DRAM	£989.00
3044e	1Mb VRAM (Only for ACB15)	£129.00
3050e	2Mb VRAM (Only for ACB15)	£169.00
3049e	2Mb VRAM (from 1Mb) upgrade	£109.00

CD ROM PLAYERS

3056g Cumana CAA 300iA **£210 - Offer price** + free headphones *until Jan 1st.* An IDE unit with 64K cache, powered tray, 320ms access time, audio mixer, ProArtisan 2 CD and Cumana's Photo Album Photo CD. *For other CD players phone for details.*

MONITORS

We stock the excellent IDEK range of monitors which are suitable for use with the RISC PC *Call for more details*

IDEK 17' £ 585
IDEK 21" £1289

Other Risc PC Upgrades

3040e	Second slice	£ 99.00
3042g	210Mb second hard drive	£199.00
3043g	420Mb second hard drive	£299.00
5216g	Beebug 420Mb second hard drive	£249.00
5215g	Beebug 250Mb second hard drive	£184.00
5081c	Econet Interface	£ 49.00
4603e	Ethernet Interface	£ 99.00
4624e	Access Interface	£115.00
3041e	PC Card and DR DOS *(Available Jan '95)*	£ 99.00
4612e	User/Analogue Port	£ 44.95
1972c	Sound Card	£ 69.00

BEEBUG

Beebug Limited, 117 Hatfield Road
St.Albans, Herts AL1 4JS
Tel 01727 840303 *Fax* 01727 860263

UK next day delivery £8. E & OE Prices and offers may change without notice. All Prices Exclude VAT



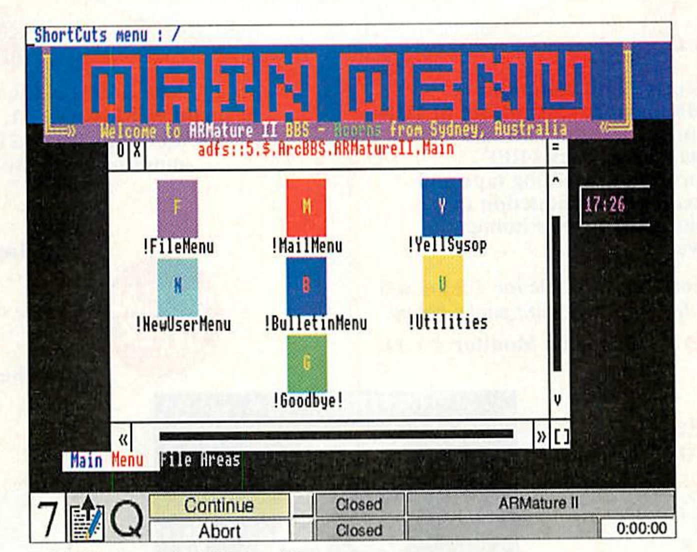
Comms

Australia goes online with ARMature II BBS

I'VE just invested a few minutes of my BT phone bill in calling ARMature II BBS in Sydney, Australia. Run by Sysop Karl 'Riscman' Davis, ARMature II is now Australia's only Acorn BBS following the closure of Terry Smith's OZWORLD BBS. Since 1991, ARMature II has been providing free access for Acorn owners and Karl has recently upgraded the BBS, which runs ARCbbs on a 4Mb A5000, to feature a filebase of about 500Mb and a V32terbo modem.

ARMature II is the official support BBS of OZBEEB, the Sydney Acorn user group, and Karl is hoping to interest many other Australian organisations in supporting connections to the European Acorn BBS community.

If funding can be arranged, a regular mail exchange with Arcade BBS of the European ARCHIMEDES and other Acorn interest FidoNet echoes is planned, as well as an Internet connection for e-mail and newsgroups.



Is it RISC OS or is it ARMature II?

The BBS already offers some Fidonet echoes and netmail to users including the K12Net echoes for schools. It has a growing user base with unlimited downloads and 60 minutes on-line time a day. I got a perfectly good 14,400bps connection when I called at about 10pm UK time which is 8am in Sydney. ARMature II BBS has a Fido node number of 3:712/510 with 24-hour free verified access and the number to call is +61-2-580-9938.

Acorn World Wide winner on display at Wembley show

THERE were dozens of faces crowded round a monitor on The Serial Port stand at the Acorn World Show, gazing in wonder at *ArcWeb*, the proud winner of the race to bring the World Wide Web to Acorn screens.

Stewart Brodie's PD *ArcWeb* software, used in connection with the PD Internet access program *TCPIP*, currently maintained by Adam Goodfellow, and a very-beta version of a PD 'fetcher' for WWW pages by Anthony Frost, gave us the first glimpse of what is to come.

All this software is downloadable by 'anonymous ftp' – the free public access Internet file transfer system – from the Demon Internet Services ftp server, and although Demon itself can't offer much support for Acorn users, there are plenty of Demon and BBS users who are ready to help new Acorn users onto the Net. Demon is actually recommending that new Acorn-owning account holders should ask for advice on Arcade BBS.

Despite the pre-show hype, there was no appearance of Acorn's own promised Web browser, and the Internet version of *Termite* featuring WWW access was not to be seen.

What we did see with *ArcWeb* was a rather sobering view of what the Internet can and cannot do. WWW access by modem is slow.

It seems the original author of *Mosaic*, the well known Web browser for PC and Mac platforms, wrote that software for use on a very high speed data link – not a 14,400bps modem.

However, you do get page after page of information in nice anti-aliased text, with full colour GIF and JPEG pictures – if you're prepared to wait for them – and compared with chunky ANSI graphics, the pictures are worth waiting for.

Once you connect to the Web, you can travel all over the world at the click of a mouse button and the temptation to break the bank with your phone bill is tremendous, so be warned.

The Underworld

Chris Johns announces The Underworld as Cornwall's Premier Archimedes BBS. Based in Redruth, The Underworld is run on an A5000 using *RiscBBS* and supports all speeds to 14,400bps. At present the BBS is online from 9pm – 11pm only and is FidoNet point 2:255/75.4 of Graeme Read's Digitax BBS.

The Underworld
Tel: (01209) 842057

Village prizes

There's still plenty of time to enter the *Acorn User* Education Competition to produce a magazine page like this, and prizes for each group include one year direct-dial Silicon Village subscriptions. Watch this space.

Highlander BBS

Highlander BBS, a PC-based Remote-Access BBS run in Gloucester by Alan Walker – a name from the past – has a growing Acorn section with Edward Ross as Co-Sysop. Edward has been uploading Acorn files and programs, and Highlander features the main Acorn interest FidoNet echoes among 100 or so PC and Amiga areas. Highlander is on line 24 hours at all speeds to 14,400bps.

Highlander BBS
Tel: (01452) 384702
and (01452) 384557

The first URL

Here's a URL (it's the address of a WWW home page) for you to try; an Australian Web server. In the 'Open URL' window of ArcWeb, you enter this text and press Return:
http://www.geko.com.au/users/riscman/index.html.
See you on Bondi Beach.

Contacting me

You can contact the Comms page by writing to David Dade, Acorn User, IDG Media, Media House, Adlington Park, Macclesfield, SK10 4NP, or by e-mail to: DaviD@arcade.demon.co.uk or Netmail to DaviD Dade FidoNet#2:254/27.0 or mail #2 on Arcade BBS 0181-654 2212.

SPECIAL OFFERS ON
Acorn Computers
FROM
BEEBUG



The A3010 is the entry level Acorn 32 bit computer. It comes with RISC OS 3.1, 2Mb memory expandable to 4Mb, 1.6Mb floppy drive, stereo sound, expansion port and a mouse. Our price includes the Action Pack FREE featuring the StartWrite wordprocessor, training tape and Zool game. This system is an excellent introduction to computing and will run the complete range of home, educational and business software.

Only £297 1Mb version also available for **£254.46**
Not suitable for software packs below.

Options - Memory 4Mb **£159** Multiscan Monitor **£170**
80Mb Hard Drive **£199**

SPECIAL OFFER **Price now reduced by £100 inc VAT**

A4000

The A4000 is the mid-range Acorn 32 bit computer. It includes RISC OS 3.1, 2Mb memory expandable to 4Mb, 1.6Mb floppy drive, 210Mb hard drive, multiscan colour monitor, stereo sound, expansion port and a mouse.

Only £889

Options - AKF50 Hi Res Monitor **£37**
Memory to 4Mb **£99**

SPECIAL OFFER
Choice of The Learning Curve Pack **FREE**
Save over £42
OR The Home Office Pack for only **£35**
Save over £50
OR The Early Years Pack **FREE**
Save over £42

NEW - The Early Years Pack

This new pack has been designed especially for children of pre-primary to end-primary age. It includes Talking Start-Write, Explore with Flossy the Frog, Mouse in Holland, Doris the Dotty Dog, Gemini, Amazing Maths and Paint Pot. This is an excellent pack that will bring the computer to life for younger children.

£42.55



The Learning Curve Pack

This package is ideal for the home. It includes Advance, the new integrated word processor, spreadsheet, database and graphics suite. In addition DR DOS 6 and the PC Emulator are included to enable you to run DOS programs. An audio training tape and demo versions of another 8 educational programs are included.

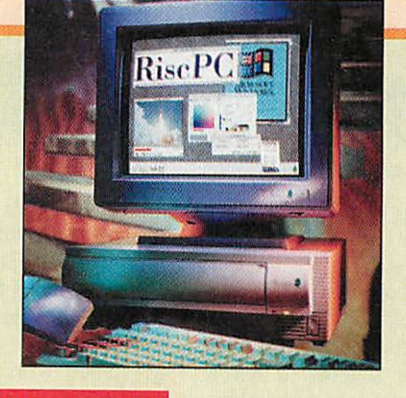
£42.55



The Home Office Pack

An excellent pack for the professional looking to use the computer for more serious applications. It includes Pipedream 4, EasiWriter, DataPower, DR DOS 6 and the PC Emulator. Also included is an audio training tape and demo versions of Prophet Accounts and Almanac personal organiser.

£85.11



RISC PC

The RISC PC is the latest computer in the Acorn range and represents a complete breakthrough in technology at an extremely competitive price. It features the new ARM610 super fast processor, can take up to 256Mb RAM, is supplied with a 14" SVGA monitor and in three configurations.

RISC PC ACB15 2Mb HD210 **£1249**
RISC PC ACB25 5Mb HD210 **£1399**
RISC PC ACB45 9Mb HD420 **£1699**

Options - A small selection include:
17" Monitor **£400**
1Mb to 2Mb VRAM upgrade **£109**
CD player **£199**

SPECIAL OFFER -
The 486PC card for only **£25** *instead of £99*
OR **FREE** Ovation DTP, Pipedream 3, Artisan 2 and Chess software
OR **0%** finance
For more information on the RISC PC and our offers please phone for a copy of our catalogue.

PORTABLES

The A4 portable is a complete RISC OS computer with 4Mb RAM, 60Mb hard drive, 1.6Mb floppy drive, ARM 3 processor and a mouse.

Only £1699

Special Offer -
Spare A4 Battery Pack
FREE Save over £50

Options - Hard drive replaced with Beebug 120Mb **£1869** or 210Mb **£1948**

The Acorn Pocketbook II

This is a hand-held computer with built-in wordprocessor, diary, spelling checker, spreadsheet, database and calculator. It offers a larger screen than the original Pocketbook and with the A-Link it can be used to transfer data to other Acorn systems. Available with 256K for **£229** or 512K memory for **£280**.

- *Beebug are Acorn's largest dedicated dealer, with over 11 years of Acorn experience.*
- *We have a large showroom in St Albans where you may see all of these systems.*
- *Free Technical Support is available to all of our customers.*
- *We carry extensive stock and most items will be available for immediate despatch.*
- *Orders received by 1 pm are normally despatched the same day.*
- *Please call for further information or for our free catalogue.*
- *We accept payment by cheque, Switch, Connect, Access and Visa. Carriage UK mainland is £8.*
- *E & OE Prices and offers may change without notice.*
- *Please add VAT at 17.5% to all prices*

BEEBUG

Beebug Limited 117 Hatfield Road, St Albans, Herts. AL1 4JS

Tel **01727 840303** *Fax* **01727 860263** *Telesales Hotline* **01727 840305**





EPS importer for Publisher

I KNOW that in my recent review of *Publisher Plus* I failed to even mention that it now imports Encapsulated PostScript (EPS) pictures.

I very deliberately left this out because my pre-release version didn't. Despite my best efforts, it spat out EPSs from just about everything except *ArtWorks*.

This may have been because of the pre-release version of *Impression*, or because of my version of *MacFS*, or it may even have been due to the more common compatibility problems that even the EPS format isn't above.

However, the finished versions on display at the show bandied EPS files about like they'd been doing it for years – when you consider that *CorelDraw* and *Quark* have been doing it for years and they still fall over if the preview type is wrong or the colour model isn't to their liking, this puts *Plus* in a very favourable light.

The other feature many expected from *Plus* was the ability to export stories as RTF (Rich Text Format) documents for use in other packages. RTF is a standard that actually appears to work, although some packages don't implement it quite as fully as they ought to.

The RTF export feature is, instead, going to be part of a separate pack along the lines of the Graphics Loaders, but working with your text instead of pictures. Details are hazy at the moment but converters for some of the more popular PC packages can be expected, although no data has been set yet. Let's hope they arrive soon: inter-connectivity needs to be improved.

Computer Concepts
Tel: (01442) 63933.



At the moment, to convert from *Impression* to the Mac at *Acorn User* we use a special copy template file and a purpose-written translator program to create a *Quark*-compatible text file. The copy template contains very specifically-named styles, and the translator takes text saved with style information from this template in *Impression* (DDF format files) and looks through it, translating DDF descriptors into *Quark* tag files. So, for example, {italic on} translates to <I>, and {"Headline" on} translates to @Heading=. It's not a terribly satisfactory solution, and anyone who transfers text between platforms will be crying out for the ability to read and write RTF files, which should remove the need for this convoluted method.

Early version of Ovation 2 looks good

DID anyone see *Ovation 2* being demonstrated at the show? It was, unfortunately, an extremely early version which means that we won't be seeing a finished version until well into Spring next year.

This meant that the demo version did a fine impersonation of a Windows program and died frequently, leaving obscure error messages on the screen, but the bits that were working were well worth seeing, and passers by were treated to rotating frames, automatic drop caps and small caps, the ability to show invisible characters, vertical justification and so on, all working well. *Ovation 2* also has irregular frames using either straight or curved lines and circular frames up and running, something that no other DTP package on the Acorn platform can do. The list of features still to be included is no less impressive and the final product will certainly be worth seeing.

With Computer Concepts concentrating on its PC drawing package over the next few months, it looks like *Ovation 2* will be upon us before any significant upgrade to the *Impression* range. Currently, *Ovation 2* isn't going to have the advanced colour separation facilities that are available in *Publisher*, which excludes it as an option for anyone working with separations, although nothing is yet carved in stone on the issue. *Ovation* does, however, have named colours, which have only recently been included in *Impression Publisher Plus*.

To say that *Ovation* has languished a little over the last couple of years is being polite, but this extremely radical upgrade shows all the signs of redressing that and forcing many of us to re-consider whether *Impression* really does rule the roost. At last, some healthy competition in the desktop publishing market.

Beebug
Tel: (01727) 840303
Fax: (01727) 860263

Double your dots

CC has also launched a new edition of its infamous Turbo Drivers, which at least one or two PC software houses are trying to implement for Windows. The latest incarnation is version 4 and includes support for the Epson Stylus colour at its maximum resolution of 720dpi. The printer isn't cheap and for 720dpi output you need specially coated (for which read 'expensive') paper, but the output is very, very impressive.

Look again

Look Systems has converted all 600 faces of the Monotype library and is making moves on the 10,000 in the URW and Letraset catalogues.

The company is trading as The Font Company these days and its fonts are absolute replicas of the 'standard' ones you'll find on Mac systems and PostScript printers.

The Font Company
Tel:(01603) 748253.

More fonts

A new company, called iSV, was launched at the show, along with its first product, a powerful font editing package. *The Font Designer's Toolkit* allows you to create fonts from scratch or to adjust an existing font and save it out as a separate font file. You can manipulate individual characters or adjust the entire font with, say, an oblique or semi-bold effect. The list of available effects is lengthy and the software sorts out all your kerning and other such technical issues for you. Just about anything can be edited manually and I've no doubt that a flood of new fonts will be produced by the already prolific PD font designers.

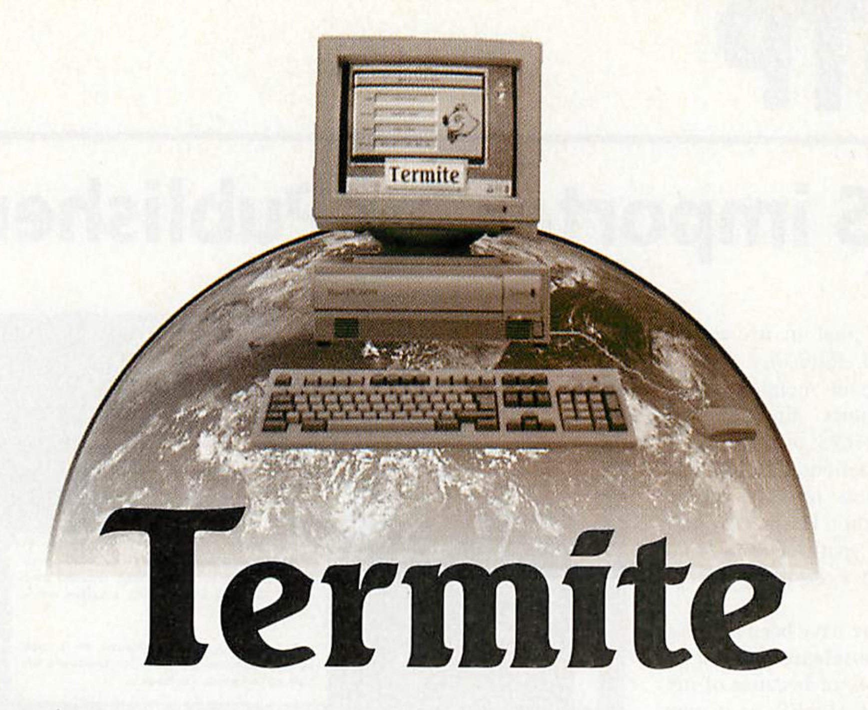
iSV
Tel: (01344) 55769.

Contacting me

You can contact the DTP page by writing to me, Steve Powell, at *Acorn User*, IDG Media, Media House, Adlington Park, Macclesfield SK10 4NP, or by e-mail to: stevep@acornusr.demon.co.uk



Your gateway to the world of communications



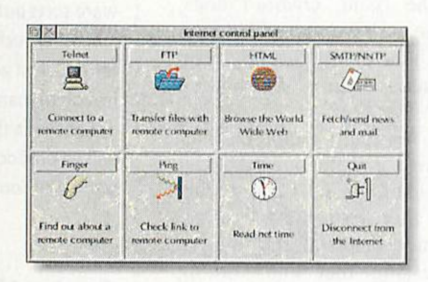
Termite

DoggySoft

Whether you are a seasoned comms addict, or a bewildered technophobe, you'll find Termite the easiest way to get onto the information superhighway. Termite is the ultimate in terminal software, featuring all you need to access bulletin boards around the world — including many features until now unknown on Acorn computers. Termite is flexible, extendable, and comprehensive (it even includes a full-featured off-line mail reader package), and above all is very easy to use.

Termite Internet also includes all the software you need to connect to the world's fastest growing network: the Internet. Termite Internet does away with the arcane commands, and makes the Internet accessible to everyone, through an intuitive graphical interface.

Termite and Termite Internet are available in great value deals including modems and subscriptions to the UK Internet provider Demon Internet Services. You can simply plug-in and play! Please complete the coupon below for more details.



Prices:

Termite	*£49.95*
With fast 14,400 baud US Robotics Sportster modem	*£189.95*
Termite Internet	*£79.95*
With fast 14,400 baud US Robotics Sportster modem	*£219.95*

Termite is upgradable to Termite Internet for no more than the price difference.
Postage & packaging: £2 for software, £5 for hardware.

○ Please send further information about Termite, internet subscriptions, and software/hardware bundles. I enclose a stamp.

○ Please send a copy of Termite ○ With Sportster 14k4 modem

○ Please send a copy of Termite Internet

Price ____ No VAT required. Remember to add p&p.

○ I enclose a cheque/PO to 'DoggySoft'.

Name

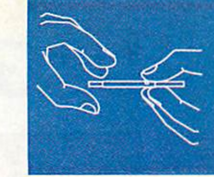
Address

Tel.

○ Please charge my credit card, brand

Expiry date

Furzefield House
Furzefield Road
Beaconsfield
Bucks., HP9 1PQ
United Kingdom
Tel.: (01494) 673222
Fax: (01494) 675878
Data: (01494) 681711
Telex: 83675 Brit G
sales@doggysft.demon.co.uk



Public Domain

New disc magazine

AFTER a disappointing entry onto the scene with a small disc magazine called *Archive*, freshly expanded group Sounds Riscy has relaunched the production with a completely fresh look.

Now called *Spectrum*, the magazine has a single-tasking, desktop-compliant interface, combined with a mini collection of PD programs by the group.

The most important parts of any magazine are the articles, and *Spectrum* excels with a wide range of computer related topics. The mix of jargon-free beginners' articles and more complex columns for the old hands works well.

However I was disappointed with the non-serious section, and the idea of putting news in a PD production which takes time to reach the user is very strange. Despite these minor problems, the textual content is on the whole very good.

Disc magazines should always make use of their format by using as many types of media as possible, and *Spectrum* combines music,



Spectrum, the new disc magazine from Sounds Riscy.

graphics, text and a PD collection in one package. Some of the graphics are a bit dodgy, with the font used for viewing the main text being particularly hard to read.

The music is good – even though it's played badly by *Coco* – but the choice of using copyrighted tunes from *Pinball Dreams* is rather unusual. The PD software bundled with the mag is of quite a high standard, and includes a new front end for *Acorn User*'s *QTM* music player as well as a great game.

All in all, a quality production which generates some major competition for my own group's disc magazine, *New Dawn*. Watch out for a report on issue 2 when it hits the streets. *Spectrum* is on disc MA013 from The Datafile.

The Datafile
Tel: (01934) 823005

Demo competition results

I MUST start by apologising for the delay in reporting on this year's ArcDemo competition. A glitch in the postal system prevented the entries from reaching me, but now that they're finally up and running on my machine, I can announce the winners.

Voting was held at the CeBIT '94 demo party, allowing about 50 German demo fans to vote for their favourite productions.



The winning demo from the ArcDemo competition.

Many of the demos pitched into the points battle were no more than glorified scrolltexts with, yes, you've guessed it: starfields.

Fortunately, several more interesting effects were featured here and there. Of particular note is the fast gouraud shading in Slompt's entry and several impressive spiral scaling routines.

The demo elected as the overall winner was Adept's entry, entitled ???? (sic). Despite the name – or lack of one – the production itself is actually quite good, featuring many new routines and some linked effects.

I was disappointed by the lack of any full frame rate effects, but there were no end of rippling and texture mapping routines. This was used to great effect to merge the first background routine into tiles so they could spin off the screen. Overall, a pretty good demo let down only by a very jerky scrolltext.

Slompt came in a close second and third with its double entry, and I felt that SquoQuo was unlucky to achieve only sixth place with its entry, *Blackzone*.

All entries are available from The Datafile (ask for ArcDemo94 discs).

Jurassic PD II

The extended version of Tom Cooper's *Dinosaw* game is now available exclusively as budgetware from the Five Star PD library. The full game, including one and two player versions, costs only £3.75. As Tom would say: 'Tarty smart this is'.

Five Star Marketing
Address: 4 Shepherds Walk, Bushey, Herts WD2 1LZ

APDL demo comp

After the success of the last APDL PD competition, David Holden is repeating the event. So far £200 has been allocated for the winners, but this will increase if a lot of entries are received. For a copy of the entry instructions send a disc and SSAE. Last year's winner, Paul Hobbs, won a Quantum hard drive for his *EventShell* program.

APDL
Address: 39 Knighton Park Road, Sydenham, London, SE26 5RN

Trynth

Despite the large number of PD games on the scene, there are very few strategy games available, which has prompted desktop coder David Jones to attempt to fill the gap with a space strategy game for up to 13 human or computer players. The graphics are fairly poor, but when played with a group of mates it's great fun. David's first shareware game is worth supporting, as he plans to release further upgrades and new games. *The Trynth* is on disc GA39 from Five Star Marketing, and costs £5 to register with David.

Pocket Book PD

The first range of PD pocket book software is now available from The Datafile. I was amazed by the quality of programs available. Watch out for an in-depth report on the Portables page.

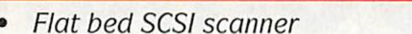
Contacting me

You can contact the PD page by writing to me, Paul Wheatley, at Acorn User, IDG Media, Media House, Adlington Park, Macclesfield, SK10 4NP or by e-mail to quantum@digibank.demon.co.uk or online on the Arcade BBS.

UPGRADING YOUR COMPUTER?



SCANFLAT — £449



- Flat bed SCSI scanner
- Fits all Acorn computers with SCSI interface
- ImageMaster software included
- Fast Scanning speed - 3.6ms per line
- Twain compliant

Scanflat offers high quality scanning of photographs, artwork or text at up to 600 dpi, capturing 16.78 million colours.

CD-ROM — from £139

Open up the world of multimedia and breathtaking graphics with a CD-ROM. Speed options 2x (300kb/sec) to 4x (600kb/sec).

- Supplied with Acorn Driver
- Choice of SCSI or IDE interface
- Free headphones, Photoview & Audioplay
- Compatible with Kodak Photo CD
- Internally or externally housed



HARD DISCS — From £99



- 2.5" or 3.5" sizes
- Fast access of up to 8ms
- 20Mb to 2Gb capacity
- Formatted and soak-tested
- Interface may be required

A range of ultra fast hard discs that come with up to a five year guarantee, up to two Gigabytes, with a choice of SCSI or IDE.

LIGHT PEN — £TBA

A unique product that replaces your mouse, ideal for art and Computer Aided Design work. Available for Acorn and PC.

- Suitable for all Acorn computers
- Menu & select buttons on pen
- Instant response time
- Three colour aluminum or plastic casing
- National Curriculum "input device"



ERGO KEYBOARD — £99



- Built in wrist support
- Tested to 30 million operations
- Quiet, tactile and curved low profile keys
- Full two year guarantee
- International versions available

A PC style keyboard for Acorn computers, with modern ergonomic features and the MEDE keyboard mouse emulation.

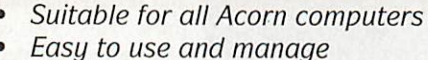
SYQUEST REMOVABLE DRIVES — from £180

A smart alternative to other storage media, these removable drives can store up to 270Mb, ideal for multimedia and DTP work.

- 3.5" 105/270 Mb capacity
- 5.25" 200 Mb capacity
- SCSI or IDE interfaces
- Programmable power saving modes
- Internal or externally housed



SCSI DISC SHARE — from £199 per station



- Suitable for all Acorn computers
- Easy to use and manage
- Share CD ROMs, scanners and printers
- The fastest disk sharing system
- Plug-in and go installation

A proven, simple, low cost solution for connecting up to six Acorn computers to a hard drive to share both applications and resources.

IDE AND SCSI INTERFACES — from £65

High performance interfaces designed to connect Acorn computers to hard discs, CD-ROMS, scanners, printers etc.

- Designers of interfaces since 1988
- Connect your computer to hard drives etc
- Up to seven devices per interface (SCSI)
- Available for all Acorn computers
- Transfer rates of up to 4.5Mb/sec





Call for current price list. Delivery £8 for 3 day delivery, £10 for 24hr. Official orders, credit cards, debit cards etc. accepted. Installation and training available.

Castle Technology has an ISO 9002 quality management system in place. Complete range of Acorn computers also available. All trademarks acknowledged. All prices exclude VAT. E&OE

Business



PC file exchange: are we nearly there yet?

NEVER before have so many Acorn packages had file import and export facilities. Longman's *Eureka 3* information pack boasts how easily one can exchange data not only between the PC versions of *Lotus 1-2-3/Microsoft Excel* and RISC OS, but also the Macintosh versions. There are, of course, many other programs which have the same sort of facilities.

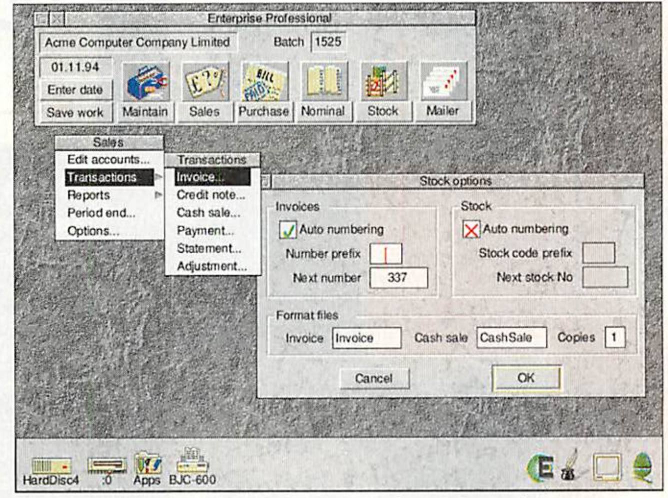
So it is now easy to incorporate Acorns into an office where PCs are used, right? Well, it depends.

The problem arises when you need to transfer your accounts, for instance, between *Sage* or *QuickBooks* on a PC and *Enterprise* or *Prophet* on an Acorn. There is no way of doing this at the moment and ACP has no plans to implement this.

So, unfortunately, if you use an Acorn for your accounts and your accountant uses, say, *Sage Sterling* on a PC, you can't just give him a disc.

You may not think that that would really be much of a problem, but what if you run a mail-order business? You would then run your accounts over a network with all the computers running a multi-user accounts package with a stock database.

If you already had 20 PCs, you would not be able to get an Acorn to read the data. Although there presently isn't a network version of *Enterprise*, ACP is developing one.



The network version of *Enterprise Accounts* from Advanced Computer Products is being developed but with no advanced file exchange facilities.

Although I admit it would be exceedingly difficult to connect Acorns to a PC network *and* get them to quickly exchange data, I believe it would be well worth it.

The largest problem with file exchange is well summed up by Adrian Critchlow, Managing Director of Iota Software: 'With a database, the file format is critical to the way it works, to its functionality and its speed. Therefore, a lot of companies are unwilling to reveal their own formats.' However, he stated: 'We are keen to see importers for a lot of popular formats and these will appear in later versions.'

While an *Impression* to *Quark Xpress* transfer utility has been described as a pipedream, it would be eternally useful. Anyway, wasn't *Pipedream* the first package which *could* transfer files between Acorns, BBCs, Z88 portables and PCs?

To sum up, there is a whole mass of packages which have import and export facilities, and it is becoming the rule as opposed to the exception. Acorns are capable of being integrated into an office with PCs, as anyone wishing to transfer CAD files (to *AutoCAD*), spreadsheets, databases and word processing into other documents can easily do so.

A new bundled business package

IOTA Software, Computer Concepts and Clares Micro Supplies have joined forces to produce the *Musketeer Pack*, which includes *Impression Style* (word processor), *DataPower* (database) and *Schema 2* (spreadsheet) at a remarkably low price.

While this isn't exactly a *Lotus Smartsuite* or *Microsoft Office*, it has to be welcomed and contains three excellent packages.

Fortunately there are no plans for a 'shell' as in *Advance* – if it needs a shell, how can it be a *true* integrated package? So many so-called 'integrated packages' rely on a shell and OLE/cutting and pasting. A truly integrated package should allow spreadsheets, for example, to be produced and edited within the word processor.

The Musketeer Pack retails at the remarkably cheap price of £249 + VAT (a saving of over £150).

Registered owners of *Acorn Advance* can upgrade at the special price of £199 + VAT. I hope this explains the peculiar dress of those 'hand-outers' at the show...

Personal button bar

Apricote Studios' stand was so busy at the Acorn World show that some punters had to wait for half an hour before a demonstration of *Personal Accounts* version 3.5. It now includes 'traffic-light' password changes and a comprehensive button bar. It will be reviewed next month.

Apricote Studios
Tel: (01354) 680432

Database release

Neurotron Softwareknown for its OCR package, *Optical*, is about to release a 'versatile [relational] multimedia database'. If you want an explanation of what that means contact:

Neurotron Software
Tel: (01227) 700516

Eureka!

Longman Logotron released version 3 of the *Eureka spreadsheet* at the show. It now features background printing, OLE with *Impression*, circular references between cells and a triple floating tool bar.

Longman Logotron
Tel: (01223) 425558

CableNews on show

Lindis International has released *CableNews 2*, its presentation graphics package. It has been substantially improved, and now includes increased interactivity between the user and computer.

Lindis International
Tel: 0198-685476

Fireworkz-Pro night

Colton Software was not able to finish *Fireworkz Pro* or *Recordz*, its 'revolutionary database', in time for the show. However, it was able to give demonstrations of a pre-release version of *Pro*.

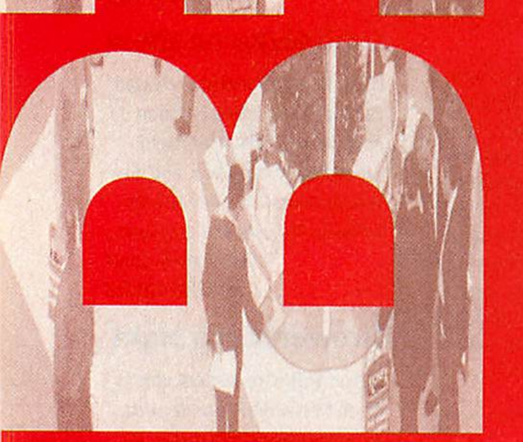
Colton Software
Tel: (01223) 311881

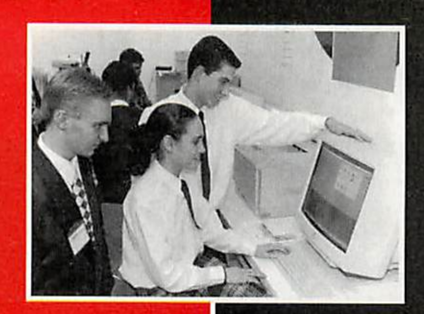
Contacting me

You can contact the Business page by writing to me, Alex Singleton, at Acorn User, IDG Media, Media House, Adlington Park, Macclesfield SK10 4NP, by fax: (01625) 850652, or by e-mail to: alex@acornusr.demon.co.uk.

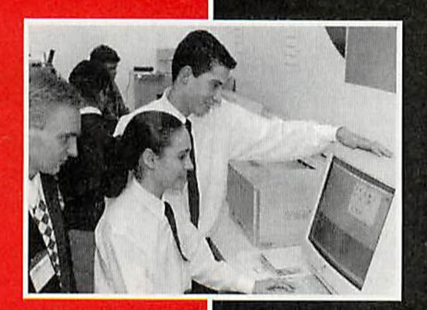


LINKING
EDUCATION
WITH
TECHNOLOGY









BETT'95 provides you with the perfect opportunity to meet the increasing demands of today's educational environment through the effective use of information technology.

Whatever your role within education, BETT has all you need for every level of IT investment. Whether you're looking for curriculum specific software, exploring the capabilities of CD Rom, upgrading your schools computing networks or deliberating over administration, accounting or timetabling packages, you can benefit from FREE expert advice and guidance.

With a comprehensive programme of over 60 BETT seminars sponsored by Acorn Computers, additional workshops, presentations, dedicated feature areas and more than 280 leading suppliers of educational IT, a visit to BETT provides the ideal INSET opportunity for all members of staff.

Last year nearly 17,000 educationalists benefited from FREE support, guidance and advice. Now it's your chance - Call 081-984 7711 for further information and FREE tickets; dial the Seminar Fax Line on 0336 413714 for full programme and booking details, or complete and return the coupon below.





TICKET HOTLINE	SEMINAR FAX LINE
081-984 7711	0336 413714*

*Calls will be charged at 39p per minute cheap rate and 49p per minute at all other times

NO CHILDREN OR UNDER 18'S ADMITTED

Sponsored by
Educational Computing & Technology
besa

in association with
TES THE TIMES EDUCATIONAL SUPPLEMENT

EDUCATIONAL EXHIBITIONS

Organised by
emap BUSINESS COMMUNICATIONS

Please send ______ FREE tickets and further information to:

Mr/Mrs/Miss ______ Surname ______

Job Title ______

Establishment ______

Address ______

______

______

Postcode ______

Telephone ______

Please send my colleagues a FREE ticket and further information.

Mr/Mrs/Miss ______ Surname ______

Job Title ______

Mr/Mrs/Miss ______ Surname ______

Job Title ______

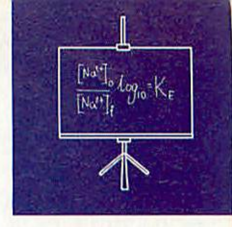
Mr/Mrs/Miss ______ Surname ______

Job Title ______

Return to: BETT '95, DDM, Driscoll House, Renwick Road, Barking, Essex IG11 0SH

Q2
12345



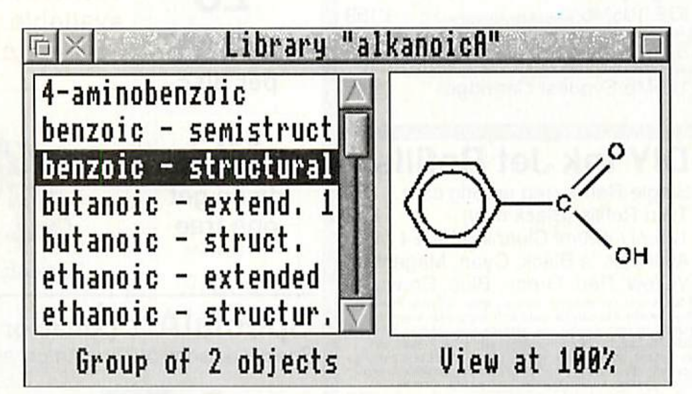


New products by SSERC

Quickfit® is a registered trademark of Bibby Serilin Ltd, manufacturers of high quality glassware for chemists. The *Quickfit® Graphics Library* by SSERC (Scottish Schools Equipment Research Centre) is a collection of very accurate and highly detailed vector drawings (*ArtWorks* and *Draw* format) of the entire range of products. All the drawings have been produced to the same scale and all fit together just like the real thing.

Readers will doubtless be aware that I feel most clip art isn't worth the disc it's sold on. But this product really doesn't qualify as clip art in the sense that it has a very specific use and is of very high standard. Anyone who uses *Quickfit®* products will find it invaluable. *Quickfit®* costs £30 + VAT for a full site/network licence.

Also from SSERC is another three-disc pack called the *Formula Processor*. This contains vector artwork in both *Draw* format, and the very convenient *Vector* Library format (*Vector* is by 4Mation) of all



SSERC's *Formula Processor* in action

things related to chemical formulae. As a reference source it's first class, particularly in *Vector* Library format, as it is so easy to find the exact bit you require. *Formula Processor* costs £12 + VAT for a full site/network licence.

I reviewed SSERC's *Graphics Collection* CD-ROM a couple of months ago and felt that it was rather overpriced at £150. Probably not as a result of my article, SSERC has reduced the price to a more realistic £99 and now the CD includes a 32-page booklet on how Chemistry teachers can get the most from the resources. Those who paid £150 will doubtless feel rather miffed that the product has been reduced by such a margin, so SSERC is offering the following.

If readers send in the SSERC advertisement from *Acorn User* together with proof of purchase of the *Graphics Collection* CD-ROM, SSERC will send *Quickfit®* and *Formula Processor* free of charge. You can't say fairer than that.

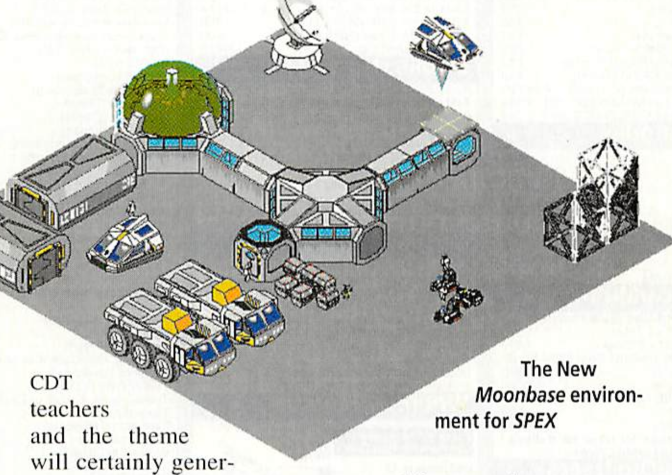
SSERC
Tel: 0131-668 4421

Spex Moonbase

SPEX, the design program from Aspex Software, will be well known to CDT and IT teachers. Aspex promised to create new environment files for the program and hot on the heels of *Street* (reviewed July 1994) is *Moonbase*.

The superlatives I applied to *Street* apply equally to *Moonbase*: excellent drawings with lots of detail. Compared with the other environments, one might be forgiven for thinking that *Moonbase* may be of less real use in a classroom.

However, the various structures included in the environment will be of great interest to CDT teachers and the theme will certainly generate a great deal of interest among students.



The New *Moonbase* environment for *SPEX*

The purchase price of *Moonbase* is £19.95, and of course *SPEX* is also required at £99. Both prices are for a full site/network licence.

Other environments to be released include *Classroom*, *Swimming Pool*, *Greek Temple* and *Supermarket*.

Teachers may send one of their students' best *Street* or *Moonbase* designs to me at the Education Page – on disc as a *Draw* file – and I'll print the best one and give one of the new environments as a prize.

Aspex Software
Tel: (01822) 611060

Special Needs Education

Thanks this month to Trish Hornsey of North West SEMERC for providing review samples and a couple of articles on the very important area of special needs education.

Prime Solver

When I reviewed Minerva's Prime Solver in August, I suggested teachers could send in a disc containing problem files and I would make up a collection and send them back to all those who contributed.

I've had some excellent problems sent in and I'm almost ready to send out the compilation discs. If you want to take part, make sure you send in your offering by the end of the month. Now's your last chance to get some excellent resources for free.

Minerva Software
Tel: (01392) 437756

Save the trees

Contrary to popular belief, computers do not save paper but actually generate it. Having a laser printer or two on the network is a mixed blessing as it means that everyone can have access to high speed printing and the potential for waste is enormous, as anyone emptying the bins in the computer department will have found out.

PTW Software has announced a simple solution called *PaperSaver* which effectively limits the number of printouts available to each network user. At only £17.95, I imagine a school could recover the cost very quickly indeed, considering the price of printer paper and laser printer toner cartridges.

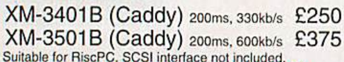
PTW Software
Tel: (01329) 281930

Contacting me

You can contact the Education page by writing to me, Geoff Preston at *Acorn User*, Europress Publications, Europa House, Adlington Park, Macclesfield SK10 4NP, or by e-mail to: gpreston@arcade.demon.co.uk

Showroom open Mon-Sat 10-18.00 hrs (All prices exclude VAT) Carriage included except where indicated

CD-ROM



All the following CD-ROM drives are PhotoCD compatible (multi-session) and include a driver for CDFS =>2.20

Internal Drives

XM-3401B (Caddy) 200ms, 330kb/s	£250
XM-3501B (Caddy) 200ms, 600kb/s	£375

Suitable for RiscPC. SCSI interface not included.

Fantastic Value External SCSI CD-ROM Drives (for all machines)

Panasonic (Tray) 300ms, 300kb/s	£229
XM-3401B (Caddy) 200ms, 330kb/s	£325
XM-3501B (Caddy) 200ms, 600kb/s	£450

SCSI interface not included. Add extra £25 for A3000.

SCSI cards

Morley uncached SCSI card	£130
Morley cached SCSI card	£170
Cumana SCSI II card	£200

The above cards are suitable for A300, A400, A3000 (Ext), A540, A5000 and RiscPC. For others see MultiPodules.

Hard Discs

A5000/RiscPC 2nd Internal Drive

210Mb IDE 14ms Cache (~1Mb/s)	£149
420Mb IDE 14ms Cache (~1.5Mb/s)	£199
540Mb IDE 12ms Cache (~1.5Mb/s)	£279

The above include all cables, screws and instructions. All the above drives are Connor as used in the RiscPC

A300/A400 Series Internal (IDE)

210Mb 14ms Cache (~1Mb/s)	£229
420Mb 14ms Cache (~1.5Mb/s)	£279
540Mb 12ms Cache (~1.5Mb/s)	£359

The above include all cables, screws and instructions.
Add £79 for ext case and/or £25 for A3000 podule case.
All the above drives are Connor as used in the RiscPC

Syquest Drives

IDE 105Mb Internal for A5000/RiscPC	£159
(Above Includes one cartridge, cables & driver software)	
SCSI 105Mb External for all Machines	£199
(Above Includes one cartridge, exclude SCSI card)	
105Mb Syquest Cartridges	£45

TopicArt

Single disc clipart containing approx. 50 high quality draw format clip art images, each on a single subject. Comes with mono reference sheet. 12 subjects are available now. Please specify when ordering. Site licences are £16+VAT per disc, please ring for further details.



TopicArt9 - Dinosaurs

Subjects avail.
1 - General
2 - Transport
3 - Costumes
4 - Entertainment
5 - Bugs 2 Slugs
6 - Road Signs
7 - Sports Equip
8 - Sports Figures
9 - Dinosaurs
10 - Symbols
11 - Tools
12 - AnimalsGB

£8 + VAT per disc

TopicArt catalogue now available. £1.50 Inc VAT & p+p (cheques only)

Buy 4 TopicArt discs get one free
not incl SpecialArt



TopicArt12 - AnimalsGB



TopicArt4 Entertainment

SpecialArt (Xmas or Signs) £20+VAT (each)

Special editions of TopicArt consisting of a minimum of 4 discs full of clipart





QuickTile v1.02 £25+VAT



Up until now it has only been possible to print posters from Draw & Sprite files. Now with QuickTile you can create posters from ANY RISCOS application, including Impression. Simply enter the size of poster required & select PRINT from the application! QuickTile does the rest, printing each tile with crop marks and tile references. RiscPC compatible.
Requires RISCOS 3.10 or later.
Return Disc with SAE for upgrade.
Upgrade from Tiler for £15+VAT.

DIY Ink Jet Refills

Single Refills (req an orig cartr.)	£7
Twin Refills (Black only)	£12
125ml / 400ml Cleaning Kit	£4 / £10

Available in Black, Cyan, Magenta, Yellow, Red, Green, Blue, Brown

Please specify colour(s) required when ordering.These do-it-yourself refills can be used with any printer where the head and ink reservoir are combined, ie, DJ-500, BJ10/200. Please do not send empty cartridges. Please note that colour quality may not be 100% from a black cartridge refilled with another colour. We cannot guarantee against dried up empty cartridges and/or blocked nozzles.

QuickSound £10

Load, play, convert & resave Armadeus, Tracker and raw data sound samples. Apply special effects including Reverse, Echo, Max Vol, alter replay rate and resample frequency. Convert samples into modules for use with the RISCOS sound system. Create stand alone Utility mod's.

QuickShow £25

Slide show presentation and video titling package. Create sequences of frames containing text of any colour with drop shadows, outline shadows and rubout boxes using the RISCOS fonts. Sprites can also be included in frames, positioned and resized as necessary. Screens can be linked together with the sequencer with fades in and out.

Hardware, Software & Books (All prices exclude VAT) Carriage included except where indicatedD

All RiscPC's include 1yr on-site maintenance. **0% and low finance available. The following prices do not apply to finance, ring for details.** We operate Acorn Assist for teachers & academics. **All RiscPC systems are now in stock.**

2MHD210 + AKF60	£1199
2MHD210 + AKF85	£1575
5MHD210 + AKF60	£1299
5MHD210 + AKF85	£1675
9MHD420 + AKF60	£1599
9MHD420 + AKF85	£1975
For Int'l SCSI CD-ROM add	
XM-3401 (200ms, 330kb/s)	£330
XM-3501 (135ms, 600kb/s)	£475

Toshiba units and the prices only apply when purchased with a RiscPC system.

RiscPC Upgrades

4Mb Simm RAM	£110
8Mb Simm RAM	£210
16Mb Simm RAM	£375
32Mb Simm RAM	£Call
1Mb VRAM (Acorn)	£129
2Mb VRAM (other)	£169
1 to 2Mb VRAM Upgrade (exchange)	£110
486 PC Upgrade (available ~Oct 94)	£99
MS-DOS 6.2 & Windows 3.11	£99
2nd Slice Case Upgrade	£99
Acorn Access for RiscPC	£119
Ethernet Interface Card	£99

A Series Computers A3010 Prices Reduced !

A3010 Action Pack 1Mb RAM	£254
A3010 Learning Curve 2Mb RAM	£339
A3010 Early Years 2Mb RAM	£339
Add £170 to A3010's for AKF52 Monitor.	
A3020 2MFD/AKF52 MultiScan System	£699
A3020 2MHD60/AKF52 MultiScan Sys	£849
A4000 2MHD105/AKF52 MultiScan Sys	£879
Add £55 for AKF50 Monitor (not A3010)	

Software Packs

Learning Curve	£42
Acorn Advance & PCSoft & demos	
Home Office	£85
EasiWriter2, DataPower, Pipedream4, PCSoft	

The above are ONLY available with any of the above computers except the A3010.

Monitors

Acorn AKF52 14" 0.39dp MultiScan	£250
Acorn AKF50 14" 0.28dp MultiScan	£310
Acorn AKF60 14" 0.28dp MultiScan	£325
Acorn AKF85 17" 0.28dp MultiScan	£649

Portable Computers

Pocket Book II (256k)	£229
Pocket Book II (512k)	£279
Psion 3a (512k)	£249
A-Link (requires RiscOS 3.1)	£42
PC Link (for IBM PC compatibles)	£60
Parallel Link for Pocket B'k or Psion 3/3a	£26
P Book/Psion 3/3a Mains Adaptor	£15
128k RAM SSD	£43
256k Flash SSD	£47
512k Flash SSD	£77
A4 Portable 4MHD60 with PC Emulator	£1599

Hardware Upgrades

486sx25MHz Bare PC Card	£357
486SLC50MHz Bare PC Card	£434
486sx25MHz PC Card 4Mb RAM	£495
486SLC50MHz PC Card 4Mb RAM	£570
For other PC memory see RiscPC RAM	
ARM3 (25MHz, Inc FPA socket)	£129
ColourCard Gold (CC)	£230
Joystick Interface (all m/c's)	£28
Midi Expansion Card	£69
Mouse (Acorn)	£25
Parallel Sound Sampler	£41
Powerpad (dual) (Gamesware)	£33
Scart - 15pin Monitor/RGBTV cable	£12
Serial Upgrade for A3000 (Acorn)	£19
Stereo Speakers (mains powered)	from £20
Sportster 14,400 Fax/Modem (Inc Cbl)	£149
User/Midi upgrade (A3000/A4000 ser.)	£46

RAM Upgrades

A3000 1-2Mb	£55
A3000 2-4Mb	£90
A3000 1-4Mb	£129
A3010 1-2Mb	£45
A3010 2-4Mb	£105
A3010 1-4Mb	£145
A3020/A4000 2-4Mb	£89
A5000 2-4Mb	£89
A5000 8Mb	£259
A300-A400 8Mb RAM	£249

Hard Discs/MultiPods

A3010 HCCS Hard Disc Multi-Podule	
80Mb + User Port + 2 Slots	£295
120Mb + User Port + 2 Slots	£399
SCSI Archimedes Internal (Incl SCSI card)	
290Mb 15ms Cache	£340
345Mb 15ms Cache	£Call
A3000 Internal IDE Hardcards	
80Mb + User Port	£229
120Mb + User Port	£349

See also top of page for other hard discs and Syquest Removable Drives

Scanners/Digitisers

ScanLight Video 256 A5000/RiscPC	£199
ScanLight Video 256 A3000-A4000	£205
Canon IX-4015 Colour SCSI Scanner	£599
Vision24 Colour Digitiser	Int £96/Ext £109
Hi-Vision24 Digitiser A5000	Int £134/Ext £149

RiscOS 3.1 Upgrades

A300/A440 Series (inc carrier board)	£97.88
A400/1, A3000, A540 Series (In stock)	£75.75
Bulk Pack of ten upgrades	£339.00

Please add £4 (Inc VAT) carriage to RiscOS

Printers (Include Cable)

Canon BJ-10sx	£150
Canon BJ-200	£210
Canon BJ-230	£280
Canon BJC-600 Colour	£360
Canon BJC-4000 Colour **NEW!**	£340
Canon BJC-800 Turbo	£1150
HP LaserJet 4L 4ppm (300dpi)	£480
HP LaserJet 4P 4ppm (600dpi)	£599
Add £40 to above printers for TurboDriver	

Printer Consumables

BJ-10 Ink Cartridge (BC-01)	£18
BJ-200 Ink Cartridge (BC-02)	£19
BJ-300 Ink Cartridge (BJI-642)	£17
BJ-600 Black Cartridge (BJI-201)	£8
BJ-600 Colour Cartridge (BJI-201)	£9
BJC-4000 Black Cartridge (BCI-21Bk)	£9
BJC-4000 Colour Cartridge (BCI-21C)	£17
BJC-4000 Fast Black Cartridge (BC-20)	£28
BJ-800 Black Cartridge (BJI-643)	£18
BJ-800 Colour Cartridge (BJI-643)	£21
DeskJet500 Mono/Colour Cartridge	£23/£24
EP-L Toner (LBP-4/HP LJIII)	£59
HP 92274A Toner (HP LJ4L)	£59
Swift24 Mono/Colour Ribbon	£7/£15

Books (No VAT)

Acorn RISCOS3 PRM's	£99.00
Add £7 (Inc VAT) carriage for PRM's	
Acorn BBC Basic VI Guide	£10.00
Acorn AASM Manual	£25.00
ArtWorks Made Easy (Dabs)	£14.95
Begin's Guide to WIMP Prog	£12.95
DTP on the Archimedes (Sigma)	£12.95
First steps in prog RiscOS (Sigma)	£14.95
Game Maker's Manual (Sigma)	£14.95
RiscOS 3 First Steps (Dabs)	£14.95
Add £2 Carr to above (£4 for Acorn books)	

Terms

EC residents add 17.5% VAT to all prices except books. Carriage free in UK (excluding remote areas) (except books), elsewhere at cost. Orders MUST be accompanied by a phone number. Prices and spec's subject to change without notification. Goods subject to availability. Goods not offered on trial basis. Restocking fee on non-faulty returns. Official orders welcome from educational institutes, chq with order under £30. E&OE.

Where to Find Us



Application Software

Advance (Acorn)	£95
Advantage (Longman)	£46
Almanac3 (Stallion)	£64
ArcFax (David Pilling)	£28
ArcTerm7 (Serial Port)	£58
ArtWorks (CC)	£125
AudioWorks (CC)	£45
Chameleon 2 (4Mation)	£33
Compression (CC)	£34
DataPower (IOTA)	£123
Desktop C v4 (Acorn)	£178
Desktop Thesaurus (Beebug)	£19
Digital Symphony (Oregan)	£39
Eureka v2 (Longman)	£93
FireWorkz (Colton)	£95
Font FX (DataStore)	£10
Hard Disc Companion (Beebug)	£45
Hatchback (4Mation)	£32
Home Accounts (Minerva)	£28
Illusionist (Clares)	£41
Image Animator (IOTA)	£46
Image Outliner (IOTA)	£46
Impression Publisher (CC)	£135
Impression Publisher Plus (CC)	£289
Impression Style (CC)	£80
MacFS (CC)	£85
Magpie (Longman)	£50
MasterFile III (Beebug)	£45
Morpheus (Oregan)	£28
Night Sky (Clares)	£63
Notate (Longman)	£54
PenDown Plus (Longman)	£67
PhotoDesk (SpaceTech)	£157
PhotoTouch (Oregan)	£68
Pin Point Junior (Longman)	£25
PlayBack (Beebug)	£17
Poster (4Mation)	£74
ProArtisan 2 (Clares)	£102
Render Bender v2 (Clares)	£41
Rephorm (Oak)	£47
Resultz (Colton)	£75
Rhapsody (Clares)	v2 £44 / v3 £75
S-Base2 Personal (Longman) **(Offer)**	£99
Serenade (Clares)	£84
ShapeFX (Datastore)	£10
Sleuth (Beebug)	£41
Snippet (4Mation)	£32
Squirrel 2 Database (Dig Ser)	£120
Superior Speech!	£19
Touch Type (IOTA)	£38
TurboDrivers BJ, HP or Epson (CC)	£42 each
Tween (Ace)	£28
TypeStudio (Beebug)	£43
Vector (4Mation)	£75
Worra CAD (Oak)	£83
WordWorks (CC)	£36
Wordz (Colton)	£75

Games Software

Air Supremacy (Superior)	£17
BattleChess (Krisalis)	£13
Birds of War (4D) 2Mb	£24
Black Angel (4D)	£24
Blood Sport (Matt Black)	£12
Break 147 & Superpool (4D)	£24
Cannon Fodder (Krisalis)	£20
Carnage Inc (4D)	£18
Chaos Engine (Renegade)	£20

Games Software (Contd)

Champions (Krisalis)	£22
-Includes Man Utd, J Khan Squash,	
-Wld Class Leaderbrd & Boxing Mngr	
Chocks 2 Compendium (4D)	£24
Chopper Force (4D)	£24
Chuck Rock (Krisalis)	£10
The Crystal Maze (Sherston)	£28
Cyber Chess (4D)	£24
Cygnus Collection	£20
- Incl Twin World, Iron Lord & Tower of Babel	
Diggers (Millenium)	£22
Dungeon (4D) 2Mb	£24
Elite Gold Edition (Hybrid)	£28
Enter the Realm (4D) 2Mb	£18
Exotic Adv of Sylvia Lane (4D)	£18
Fire & Ice (Renegade)	£20
Flashback (US Gold)	£22
Fun School 2/3/4 ea. (5, 5-7, >7)	£17
GODS (Krisalis)	£10
Granny's Garden (4Mation)	£23
Haunted House (4D) 2Mb	£18
Heimdall (Krisalis) 2Mb	£13
Hero Quest (Krisalis)	£13
James Pond (Krisalis)	£10
James Pond 2 RoboCod (G/W)	£20
Krisalis Collection	£21
-Includes, Mad Prof, Pipe'm, Terr'x & Revel'n	
K.V. (High Risc)	£12
Lemmings (Krisalis)	£19
Lemmings for RiscPC (Krisalis)	£30
Lemmings 2 Tribes (Kris) 2Mb	£21
Lotus Turbo Chall 2 (Krisalis)	£19
Magic Pockets (Renegade)	£20
Magnetoids (Oregan)	£22
Noddy's Playtime (J/Bean) 2Mb	£20
Oh No More Lemmings (Kris)	£16
Omar Sharif's Bridge (Krisalis)	£21
Pandora's Box (4D)	£13
Play it again Sam 1 / 2 / 3	£19 ea.
Populous (Krisalis)	£13
Premier Manger (Gremlin)	£20
Real McCoy 2/3/4 (4D)	£24 ea.
Repton 3 / 4 (Superior)	£19 ea.
Saloon Cars Deluxe (4D)	£24
Scrabble (US Gold)	£22
Sensible Soccer (Renegade)	£20
Sim City (Krisalis)	£22
Sim City 2000 (Krisalis) RiscPC only	£30
Simon the Sorcerer (G/W) 2Mb	£31
Small (Virgo)	£19
Speedball 2 (Krisalis)	£20
Spheres of Chaos (Matt Black)	£19
Starfighter 3000 (Fednet)	£23
Stunt Racer 2000 (4D)	£24
Stunt Racer 2000 Xtra Tracks (4D)	£17
SWIV (Krisalis)	£10
10/10 Software Series (4D)	£18 each
- Early Essentials (<7yr), English (6-16yrs),	
- French (8-16yrs), Junior Essentials (5-11yrs)	
- Maths (Number) (6-16yrs), Maths (Algebra)	
- (6-16yrs), Maths (Statistics) (6-16yrs),	
- Spelling (<9yrs), Driving Test	
10/10 Dinosaurs (all ages)	£10
Time Machine (4D)	£18
Virtual Golf (4D) 2Mb	£24
Virtual Golf Augusta Course (4D)	£13
Xenon 2 (Gamesware)	£19
Zool (Gremlin)	£16

Desktop Projects Ltd Tel: 0161-474 0778

Authorised Acorn Dealer, Fax: 0161 474 0781, Email: info@desktopp.demon.co.uk
Unit 2A, Heapriding Business Park, Ford St, **STOCKPORT.** SK3 0BT





SWITCH



Registered Squirrel Dealer



Spec 94



Cover disc

Tie-ins

Author: various

A NUMBER of the directories on this disc tie-in with articles elsewhere in the magazine:

● The *C* directory contains two programs related to the C for yourself article. The source code for both programs is inside the *C* directory, with the Absolute files – compiled and linked versions of the program – in the root directory. The two programs are *Kate2*, an improved version of the program on the last disc, and *HangIt*, a program which crashes (deliberately). If you run *HangIt*, you will see a continuous scroll of numbers which can be interrupted by pressing Escape.

● The *DropCaps* directory contains a set of drop cap files for use with *Impression*. There is a box in the article on page 44 comparing *Impression*, *Quark* and *Pagemaker* which explains how to include these files in your documents. There are 26 individual files; one for each letter of the alphabet. The drop cap generated is in the Homerton.Bold font, although this can be changed by editing the files.

● The *StarInfo* archive contains all the programs described in the *INFO section of the magazine. Among the various useful or entertaining programs on the disc this month: programs to generate psychedelic and hypnotic patterns on your monitor, a memory saver for *NewLook* users, a program to generate foreign characters, and a flying radish. The *StarInfo.December* directory contains the files that were lost from last month's disc, due to one of the archives being corrupted.

Disc problems

WELL, we certainly had our fair share of those last month, as anyone buying the magazine would have noticed.

The first problem was with *HomeWorks: Graphs and Charts*. Despite the careful instructions given about copying the *ColourPicker* module into your *!System* directory, the program obstinately looked for the module in completely the wrong place – in an internal directory. The offending line was in the *HomeWorks.!Graphs.!Run* file and read:

```
RMEnsure ColourPicker 0 RMLoad
Homeworks_Resources.Picker
```

whereas it *should* have read

```
RMEnsure ColourPicker 0 RMLoad
System:Modules.Picker
```

Changing this line will ensure that *Homeworks Graphs and Charts* runs correctly on a non-Risc PC system. *Homeworks Sheet* and *Homeworks Word* look for the module in the correct place.

The second problem was with the *StarInfo* archive, which had the wrong file type. To rectify this, leave the Desktop by pressing F12, and type the following:

```
*SETTYPE ADFS::AUDec94.$.!Star
Info.StarInfo DDC
```

(all on one line). Then press Return to re-enter the Desktop.

This will enable you to access most of the archive, but unfortunately there is a further problem. The last few programs in the archive are corrupted, which affects the *Pillidge*, *Poulter*, *Van Mourik* and *Whitacre* programs. These programs have therefore been repeated on this month's disc, in the *StarInfo.December* directory.

Having cleared up after last month's disc, let me make the usual confident claim that:

Our cover discs are thoroughly tested at every stage of production, but one or two faulty discs may slip through. If you suspect that you have a faulty disc, check whether it verifies by choosing 'Verify' from the menu produced from the floppy disc icon on the icon bar.

If the disc does *not* verify, then it is physically faulty and should be returned to PC Wise, Dowlais Top Business Park, Dowlais, Merthr Tydfil, Mid Glamorgan CF48 2YY, who will replace the disc free of charge.

If it does verify, contact the editorial office at *Acorn User*, IDG Media, Media House, Adlington Park, Macclesfield SK10 4NP or tel: (01625) 878888.

While we try to test all the programs on the cover disc, we are unable to try them on all possible combinations of computer, hardware and software. If you uncover a problem with one of the programs on your machine, let us know. We try to support RISC OS 2, but much of the software written for the disc does require RISC OS 3.1 or above, as software writers are switching to the new operating system.

The *Acorn User* cover disc has been checked for viruses using *Killer* version 1.801 from Pineapple Software.

Homeworks Spreadsheet

Author: Insight

THIS program requires RISC OS 3.1 or later to run.

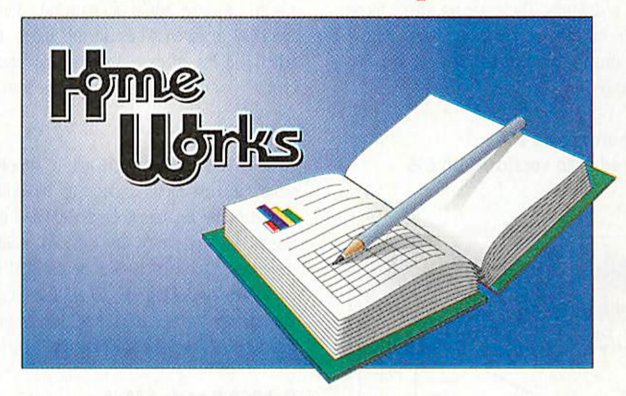
HomeWorks Sheet is the spreadsheet section of *Acorn User*'s *HomeWorks* integrated application. To use it on pre-Risc PC machines, you will need to install the *ColourPicker* module in your copy of *!System*. This is provided with *HomeWorks*: run the *SysMerge* program supplied and use it to update your copy of *!System* with the one supplied on the disc.

HomeWorks will not run from the archive and must be copied to another disc first. Instructions for beginners to *HomeWorks* are supplied with the program in the directory.

To create a new document, click on the *HomeWorks* icon with the Adjust mouse button, double-click on the spreadsheet icon and then on the *Standard* file, which loads that up as the default document.

The other documents available from this window are two example spreadsheets. One of these illustrates a simple account statement and the other shows four grids demonstrating addition, subtraction, multiplication and division.

HomeWorks coupon 3



This is the third coupon in a set of five which together entitle you to a 40 per cent discount off the price of a registered version of *HomeWorks*. Normally, a registered version would cost £50, so with all five tokens it will cost you just £30.

To claim your registered version of *HomeWorks*, send all five tokens (once you have collected them), plus a cheque for £30 made out to Insight, to Insight, 23 College Place, St Albans, Hertfordshire AL3 4PU.



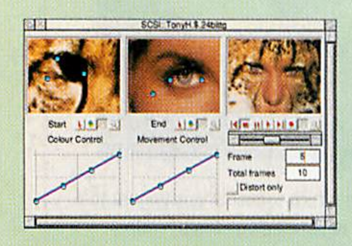
!Rephorm takes two sprites of any size and allows a morph to be generated between them. You simply identify a number of key control points on the start sprite and reposition them to similar places on the end sprite. Rephorm calculates so quickly that the effects of repositioning control points can be seen in real time as you drag them! All calculations are performed in the background so Rephorm never stops the machine from multitasking. The user interface has been widely acclaimed for both its simplicity and its versatility. The morph can be displayed on screen, saved to disc as either an Ace Film or an Acorn Replay file, or individual frames or groups of frames may be saved as sprites.

Since its launch last year, several extra features have been implemented. Chief among these is Object linking and embedding (OLE). Control-double-clicking on any sprite within Rephorm will automatically transfer it into !Paint (or another painting package) for editing. Saving the edited sprite from !Paint will instantly transfer the sprite back into Rephorm, which will then recalculate the effects of the change.

Rephorm has always supported the 16 and 32 bit sprite file formats for the new Risc PC, but a new utility, !UnClear, allows the now obsolete 'ClearFiles' to be converted into sprites for use with Rephorm. Another utility, !Splitter, will split a SpriteFile containing a number of sprites into individual sprites.

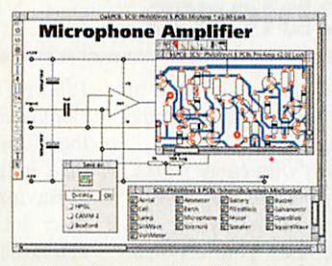
As well as being able to produce morphs and distortions of images, Rephorm can also produce video style special effects such as fades and wipes. These are useful for those people creating and editing Acorn Replay films, providing interesting ways to join two clips together.

Rephorm costs £50
Upgrades to version 1.04 £15



Rephorm

OakPCB II



Having enjoyed considerable success as both a stand alone application, and as part of Design Processor, OakPCB has recently undergone its first major revision to become OakPCB II.

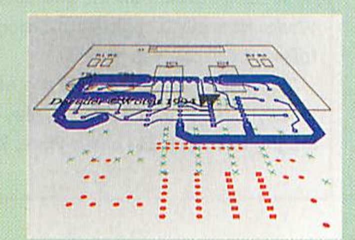
The changes made have been generated as a result of user feedback, and also to take advantage of the improvements which have been made to the operating system since the application was launched under RISC OS 2.

As ever, the user interface to OakPCB is based very closely on !Draw, and users familiar with that package will find no difficulty in getting to grips with the business of creating and editing both schematic diagrams and printed circuit board layouts. OakPCB can handle anything from simple single layer boards all the way up to 4 layer. Comprehensive (and extendable) libraries are provided for both PCB and schematic work.

By default, OakPCB aligns tracks in multiples of 45°, although this feature can now be turned off to allow tracks to be placed at any angle if required. Visual feedback is given whilst in this mode and when editing tracks, so that the tracks change colour when they are aligned at 45° intervals.

A new utility called PCBDrill is supplied which allows circuit boards to be drilled automatically on the Roland CAMM 2 and CAMM 3, and also on Boxford milling machines. Oak PCB II runs on all RISC OS computers including the new Risc PC. It outputs to Plotters and RISC OS printer drivers via Draw Print & Plot (supplied).

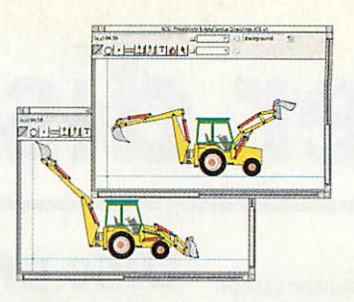
OakPCB II costs £70
Upgrades cost £35



OAK SOLUTIONS

Dial House Chapel Street
Halton Leeds LS15 7RN
Tel: 0532 326992 Fax: 0532 326993

Prices shown include P&P but exclude VAT



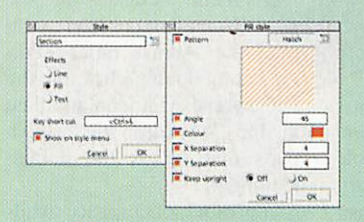
Apollonius PDT is a fully parametric 2D CAD environment. However the user interface differs considerably from conventional wisdom. Normally CAD packages are cluttered with an abundance of methods for drawing each type of object. For example the circle tool will have variants such as Centre/Circumference, Centre/Radius, Radius/Tangent to 2 objects, Three point etc. With Apollonius PDT there is only one Circle tool, but the interface is sufficiently intelligent to know what type of circle you are trying to build by which objects you click on. Indeed the number of options is larger than in most CAD packages.

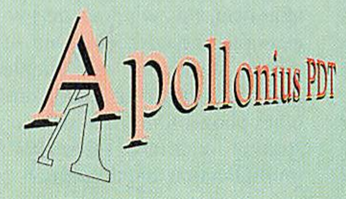
Other noticeable differences are the apparent lack of short line segments and arc tools. Both of these are instead replaced by an 'intelligent pencil' which allows the draughtsperson to draw round the relevant parts of construction lines in one quick operation.

Being parametric, the package allows the designer to answer 'what if' questions very rapidly. The whole drawing will be recalculated and redrawn as you change the positions or sizes of key objects, or even the geometrical relationships between them, by simply dragging any item around the screen.

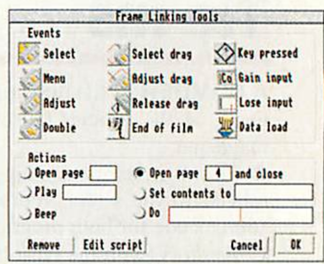
Altogether, Apollonius represents a radical new way of doing CAD. It makes it possible to create clear, flexible, accurate designs, with the minimum of training. The amateur user benefits from the amazing ease of use, while the professional benefits by its unrivalled parametric power.

Apollonius PDT costs £150
Upgrades from WorraCAD and Oak PDT £75





genesis



Genesis Professional and Project are the successors to Genesis II and Genesis Plus and feature greater power, speed, and ease of use. The Genesis menu structure has been simplified by using dialogue boxes to alter the style of frames and pages. Master pages can now be created and added to a library. Application creation and editing has been eased by the introduction of 'Object Linking and Embedding'.

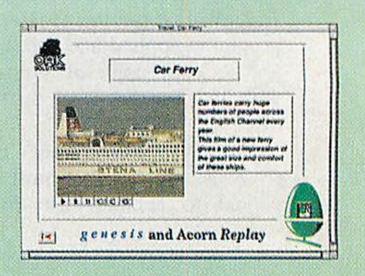
New data types have been incorporated into Genesis, which now supports Artworks, Replay, Windows .BMP and .WAV files. Predefined control buttons can be added to Euclid, Film, Replay and Sound frames. A 24 bit colour model is used throughout and Genesis can handle the new 15 and 24 bit Sprites. The speed at which Genesis pages load has also been increased significantly.

Genesis Professional provides support for Laservision players and for CD. Its powerful Script language has been extended with a host of new keywords and now supports global variables.

Genesis Project is a friendly multimedia authoring system which provides sufficient power to satisfy the everyday needs of most users. Applications authored using Genesis Project are, of course, fully compatible with Genesis Professional so that they can be used as the basis for more complex work. Genesis Project differs from Professional in two significant ways. There is no access to the script programming language, and the overall program structure is simplified with fewer menu options and a reduced range of linking tools. This makes Genesis Project less daunting to the novice user than its big brother, whilst allowing progression to Genesis Professional at a later date.

Upgrades are available from all previous versions of Genesis (including Learning Curve), telephone for details.

Genesis Professional costs £120
Genesis Project costs £50



Between the sheets

James Harrison describes the third part of the HomeWorks suite: a powerful and fully-featured spreadsheet.

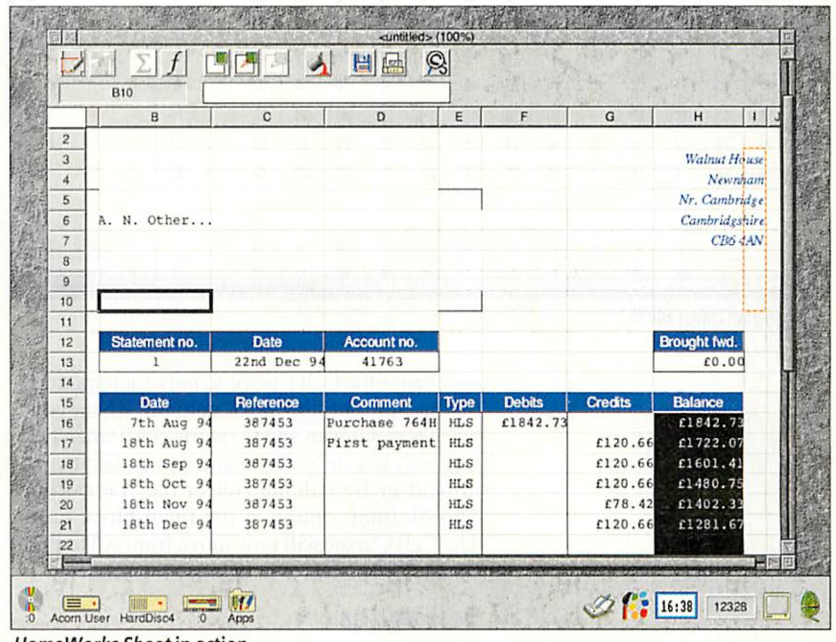
HomeWorks Sheet is, as you have probably already gathered from the disc pages, the third part of the *HomeWorks* integrated suite of applications. It is also, unsurprisingly, a spreadsheet.

A spreadsheet allows you to work with numbers, analysing and presenting numerical data in a variety of formats. Spreadsheets are most commonly used for manipulating financial information: an accountant may use one to prepare a company's yearly results; a stock controller might use it to forecast stock requirements; or you might simply use it to do your home accounts.

One of the most desirable features of the spreadsheet is its ability to perform complex 'what if?' and 'how many?' calculations. For example, if I decided to start manufacturing and selling a widget containing a dozen components, how many widgets would I have to sell to make the venture worthwhile? What if the price of a single component increased, and how many more widgets would I need to sell to make the same profit? With a spreadsheet, the answers to questions such as these are just a few key presses away.

In use

Once you have installed *HomeWorks Sheet* (see the installation files on the cover disc for instructions on how to install it), double-click on the *HomeWorks* icon in your Filer window. This will install the *HomeWorks Manager* on the icon bar.



HomeWorks Sheet **in action.**

Now click with Adjust on the *HomeWorks* icon to open the *HomeWorks* Filer window. Inside this window you will find, if you have installed them all, the *Graphs & Charts*, *Document Designer* and *Sheet* icon, as well as the *Help* and *Work* icons.

Run *Help* now as it will provide you with invaluable information about using the program, especially as there is not nearly enough room in this article to describe all of *HomeWorks Sheet*'s features. Next, double-click on the *Sheet* icon to open its Templates directory, and then run any of the example Templates that appear in this window. An 'untitled' window will appear on screen. Now drag one of the CSV files from the *HomeWorks Examples* directory into cell A0 of the 'untitled' window. After a brief delay – you will see the word 'recalculating' appear in green in the Info icon in the button bar – each value in the CSV file will appear in the appropriate cell in the 'untitled' window.

Now, using the cursor keys, move the Cell Cursor – the thick black outline that initially resides at address A0 – onto one of the cells containing a value.

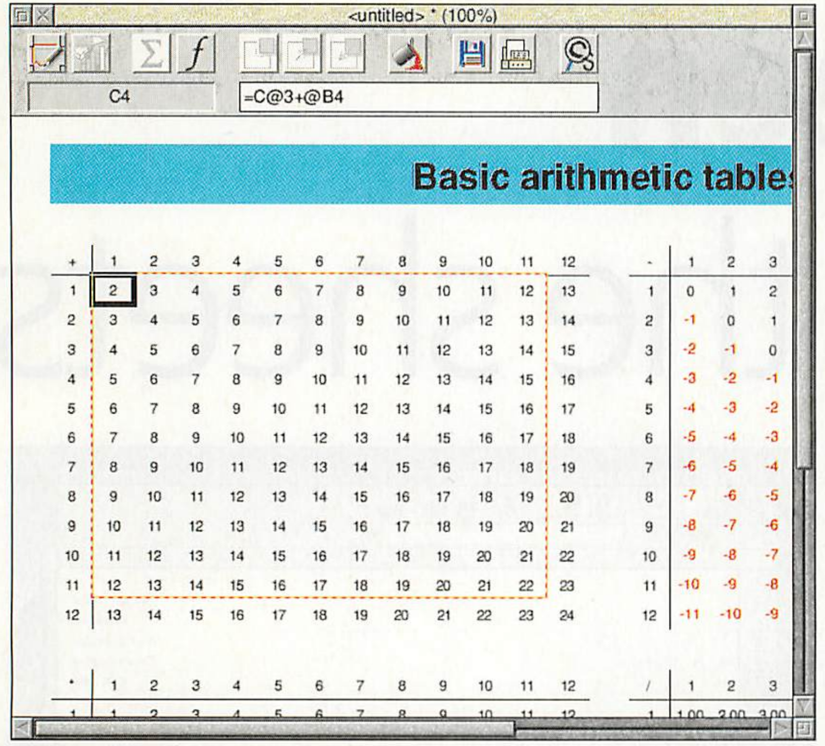
As each cell is highlighted by the Cell Cursor, its contents will appear in the Data Entry icon on the button bar. Once you have a value in the Data Entry icon, press any letter or number. The value that you pressed will appear at the end of the value in the Data Entry icon, followed by the text caret. Press the Return key now to update the value in the cell itself.

The input block

You probably noticed when you pressed Return that the Cell Cursor didn't move to the next cell. There is a very good reason for this. In many spreadsheets, if you want to enter values into the cells A0-E6 for example, you will probably need to enter the values into A0-A6, then move the Cell Cursor to B0, using the cursor keys or mouse, and enter the values for B0-B6 – repeating the same process for columns C, D and E. *HomeWorks Sheet* greatly simplifies this process using something called an Input Block.

Select the range of cells A0-E6 by dragging over them with the mouse, and then select the Input block option in the Selection menu or press Ctrl-I. An orange dotted outline will appear around the selected area. Pressing Return will

FEATURE



Creating an input block.

now cause the Cell Cursor to move automatically to the start of the next column whenever it reaches row seven and to return to A0 when E7 is reached. If you prefer to enter your data by row instead of by column, select the 'Left>Right; Top>Bottom' option in the Input block menu. The Cell Cursor will now move from A0 to B0 to C0 and so on, before jumping to the next row.

Cell styles

As with the *Document Designer* and *Graphs & Charts*, *HomeWorks Sheet* makes extensive use of Styles – in this case Cell Styles. A Cell Style allows you to specify how numbers and text appear either in individual cells or a range of cells.

So, as well as containing the font and alignment information, the Cell Style also defines how different numbers should be displayed. For example, a style called 'US Date' might specify that any number entered into a cell to which the 'US Date' style has been applied will be displayed in mm/dd/yy format in green, unless the value entered is a zero, in which case it will be displayed in blue, and that the date should be underlined and left justified.

If, at a later stage, you decide that you want all dates to be centered, it is simply a case of editing the style. A financial style on the other hand might automatically add a £ or $ symbol in front of the value, display negative values in red, and right justify the numbers.

A Cell Style is always linked to a specific cell or range of cells, and any values entered into those cells will be displayed using that style. So, if you copy a value from a cell with style X to a cell with style Y, the value will be displayed in both styles.

Any number of Cell Styles can be defined, each with an appropriate name, and they can be applied to any cells, irrespective of whether they contain values or not. You can therefore create blank worksheets, or worksheets containing instructions about where certain values should be entered, and save them as *HomeWorks* Template files for future use.

To create a new Cell Style or edit an existing one, either select the Styles option in the Sheet menu, click with Select on the Style icon on the button bar, or press Ctrl-F6. The Style Manager window will open in the middle of the screen. The very first style listed in the Style Manager is the initial global worksheet style. The contents of any cells to which no other styles have been applied will be displayed in this style.

A new Style can be added either by clicking on the New Style button or pressing 'N'. A new style called 'Untitled' will appear at the bottom of the Style list. You can change the style's name by clicking on the Rename button or pressing 'R'. Enter a new name and press Return. To edit the new style, either double-click on the style name or press Return again.

The Style Editor allows you to set the following details:

- Text and numbers can be displayed in either the system font or any outline font. If an outline font is chosen, you can also specify the size and aspect ratio of the font, as well as whether it should be underlined or kerned.
- The Alignment section of the editor allows you to set the horizontal and vertical alignment of a cell's contents. You may, for example, want to separate a row containing 'totals' from the previous row in order to make it stand out. Instead of using a blank row, simply increase the 'totals' row's height and select 'Bottom' vertical alignment.
- The Format section of the editor is probably the most important. It allows you to specify how numbers should be displayed in cells. Three writable icons, under the heading Numeric format, contain the format details for positive (+ve), zero, and negative (-ve) numbers. The writable icons themselves will contain cryptic codes such as #f0 and #s4.

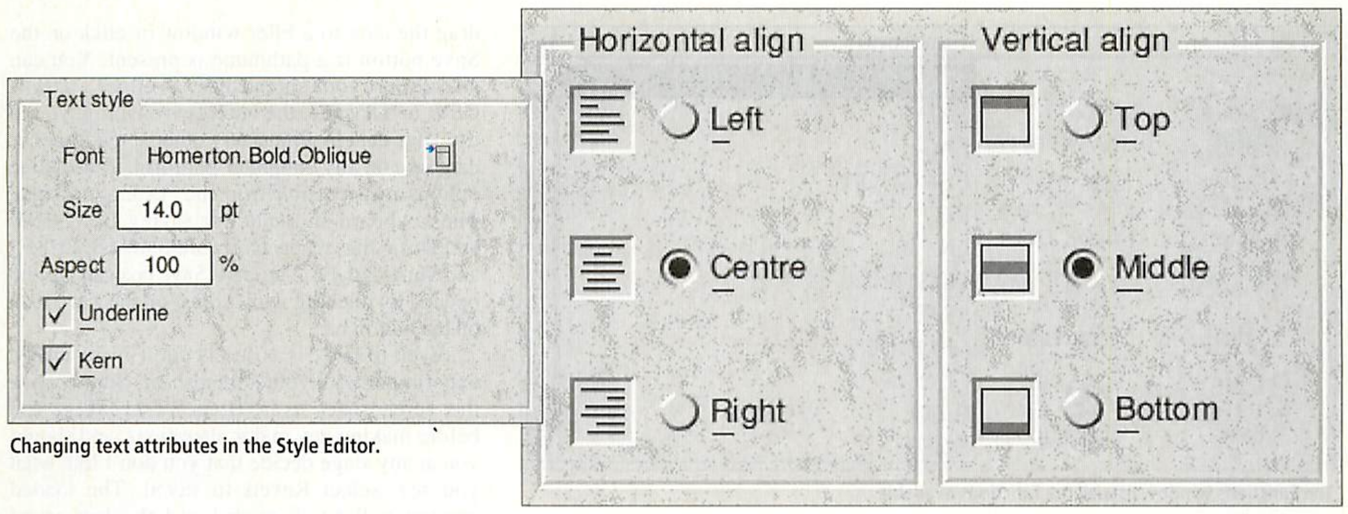
These are simply format descriptors – #f0 describes a floating point number with no decimal places, or an integer, and #s4 is a scientific number with four decimal places. You don't need

HW Sheet
File
Edit
Selection
Styles... ^F6
View
Utilities

Selection
Input block ^I
Clear cells ^K
Cell border ^B
Sort...
Fill
Make series
Lock F10
Unlock ⇑F10
Hide F11
Unhide ⇑F11

Input block
Top->Bottom; Left->Right
Left->Right; Top->Bottom

Changing how an input block moves the cell cursor.



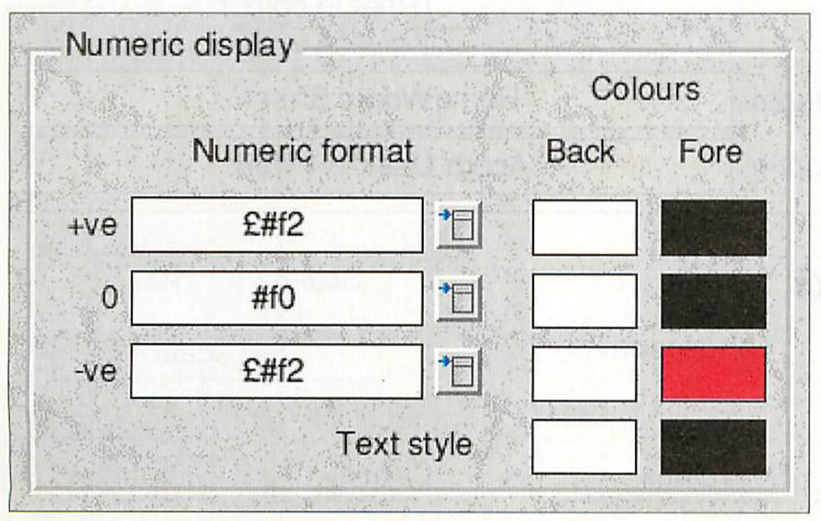
Changing text attributes in the Style Editor.

Altering alignment of text in cells.

to enter these manually: just click on the Menu icons beside each writable icon and choose the numeric format (from Integer, Sterling, Scientific 4 or 5, Fixed point 4 or 5, Time or Date) for positive, zero and negative values. The appropriate format descriptor will then appear in the writable icon.

How does the format descriptor work? Select the Date numeric format and the following will appear: #D1#0 #M2 #Y. This will display the date in the form: 7th Jun 1994. #D1 is the code for 'Day without leading 0', i.e. 7 instead of 07, and #0 means display the ordinal (th/nd/st) of the day. #M2 displays the month as a three letter abbreviation, and #Y adds the year. You can customise any format descriptor using the following codes:

```
#fn : Fixed point with n=0-9 digits after point
#sn : Scientific with n=0-9 significant digits (0 equates to 10)
#H0 : Hours in time
#H1 : as H0 but in 24 hour clock with leading 0
#P  : am/pm
#m0 : Minutes with leading 0
#m1 : Minutes without leading 0
#S0 : Seconds with leading 0
#S1 : Seconds without leading 0
#D0 : Day with leading 0
#D1 : Day without leading 0
#O  : ordinal (th/nd/st of date)
#M0 : Month as number
#M1 : Month as name
#M2 : Month as three character name
## : Converts to a #
```



Numeric formats can be changed easily in the Style Editor.

The Format section also allows you to specify the foreground and background colours for positive, negative and zero values, as well as for straight text.

When you have finished, press Return or click on the OK button to close the Style Editor. To apply a Style to a cell or range of cells, select the cells by dragging over them with the mouse and then click with Adjust on the Style icon on the button bar. Instead of the Style Manager window opening, the Styles menu will pop up. You can now apply the style to the cells by clicking on the style's name in the menu.

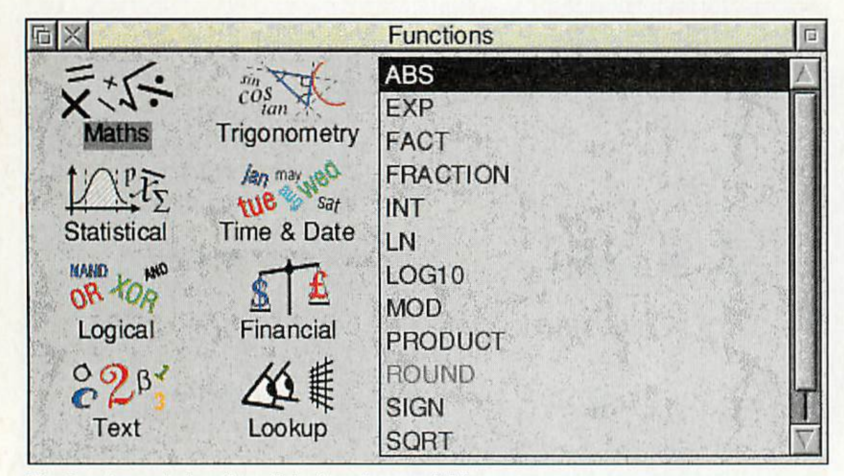
Functions

HomeWorks Sheet provides over 50 functions for use in formulae. They include maths, trigonometry, statistical, time & date and logical functions. Help on each function is provided in the Functions window which can be opened by clicking on the Functions button on the button bar. Run the *Help* application and then move the mouse pointer over each function name to see what it does and how to use it.

In order to tell *Sheet* that you are entering a function in a formula and not a value or text, all function names are preceeded with the = sign when entered. The formula to calculate the sum of the contents of cells A0 to A3 is thus: =SUM(A0,A1,A2,A3). If you want to display the actual formula instead of the result in the worksheet, press F9 or choose the Show formulae option in the View menu.

HomeWorks Sheet does not currently support a range specifier; if you want to sum A0 to E6, for example, you will need to insert every cell reference into the function as in =SUM(A1,A2, A3.etc.etc.E4,E5,E6).

Using the cut and paste options, you can copy a formula from one cell to another. When you copy



The Functions window lists all the functions available.

a formula in the default 'relative referencing mode', any cell references used in the formula are automatically adjusted to take into account the formula's new position in the sheet. Thus, if the formula in cell B5 is =SUM(A2,A3,A4,A5) and you copy B5 to C6, the formula will be altered to =SUM(B3,B4,B5,B6).

If, on the other hand, you want the formula to always refer to the specified range – absolute referencing – you should use the @ symbol in the formula in one of the following methods:

- to make the formula always reference A2-A5, the formula should be =SUM(@A@2,@A@3,@A@4,@A@5).
- to make the formula always reference column A, with the row number being updated, use =SUM(@A2,@A3,@A4,@A5). When this is copied from B5 to C6, the formula will become =SUM(@A3,@A4,@A5,@A6).
- to make the formula always reference the specified rows, with the column number being updated, use =SUM(A@2,A@3,A@4,A@5). This will become =SUM(B@2,B@3,B@4,B@5) when copied.

Filling data

If you want to copy a value, style or formula from one cell to a selection of adjacent cells, click on the Fill button on the button bar or select the Fill option in the Selection menu.

The Fill dialogue box allows you to specify the direction of the copy, and whether or not the cell's style should be copied with the values.

Saving

HomeWorks Sheet allows you to save your spreadsheet in one of four different formats. To save a *Sheet* file containing all style and formula information and so on, either click with Select on the Save icon on the button bar, select the Save option in the File menu, or press F3. A Save box will appear, and once you have entered the correct name, you can drag the icon to a Filer window or click on the Save button if a pathname is present. You can also export your spreadsheet as either a *Draw*, CSV, or TSV file, the latter two enabling you to use your data in almost any other spreadsheet or database on any computer platform. These three options are accessible from the File Export menu. The keyboard shortcuts for saving CSV, TSV and *Draw* files respectively are Shift-F3, Ctrl-F3 and Shift-Ctrl-F3. The CSV Save box can also be opened by clicking with Adjust on the Save icon on the button bar.

Revert to saved is a useful option if you wish to experiment with your spreadsheet. Simply save the spreadsheet as a *HomeWorks Sheet* file before making any major alterations, and should you at any stage decide that you don't like what you see, select Revert to saved. The loaded version will be discarded and the last saved version reloaded.

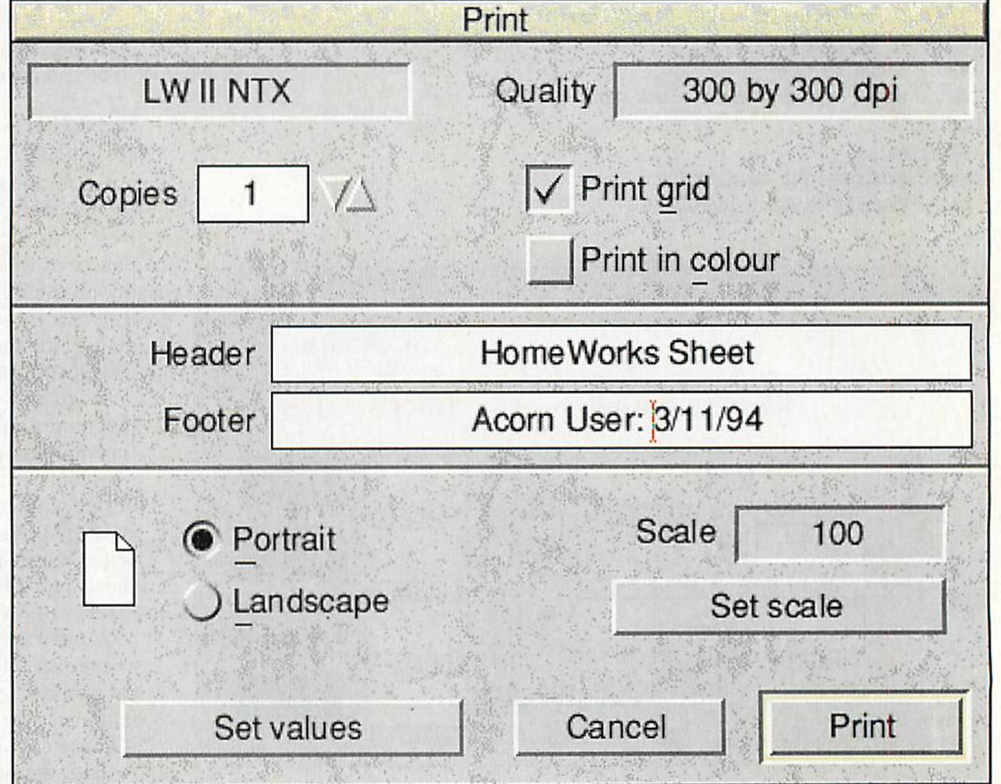
Printing

Choosing the Print option in the File menu, clicking on the Printer icon on the Button bar, or pressing Print will open the Print dialogue box. In this dialogue box you can specify the number of copies to be printed, whether the grid should be printed, and a header and footer for the printout.

The Set scale and Landscape options are not available in this version of *Sheet*. The Set values button allows you to retain the current print options for future printouts.

Clicking Adjust on the Print icon on the button bar will then print the sheet using the chosen options, avoiding the need to open the Print dialogue box again.

That's it for the spreadsheet part of HomeWorks. *Keep your eyes peeled for more* HomeWorks *modules soon...* AU



Printing your spreadsheet.

EIDOSCOPE



Over £3,500

of professional video editing software condensed into Eidoscope for just

£169+VAT

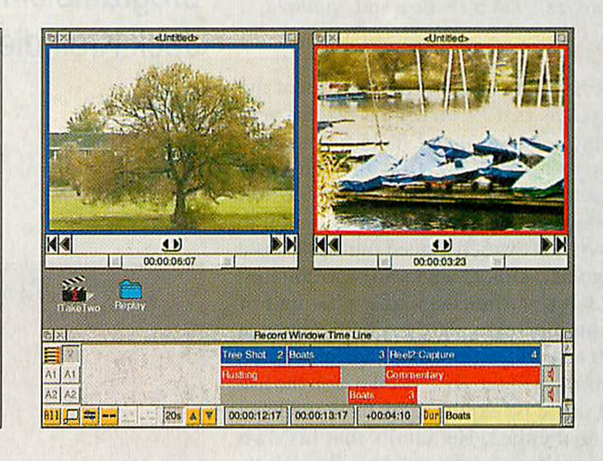
Eidoscope gives the home movie maker the power to edit video on the Risc PC. It is based on a sophisticated system used by professional video editors. Designed by editors for editors, it supports many of the features available to professionals including:

◆ Easy to use editing control panel ◆ Real time edits ◆ Real time mixes and wipes ◆ Full video/ audio synchronization control ◆ Editing and mixing two audio tracks simultaneously ◆ Importing sprite animations ◆ Exporting single frames for use in story boards ◆ Fully compatible with other Acorn packages for use in titling ◆ 12½ frames per second ◆ Resolution of 160 x 128 pixels ◆ Over 32,000 Colours ◆ Full screen playback

"For quite a remarkable price, practically all the amateur would ever dream of in a video editing suite." *Acorn User*

"Eidoscope...emulates the layout of professional editing suites with perfection, facilitating all the commonly used effects with remarkable ease." *Acorn User*

"Eidoscope gives the amateur a set of video editing tools powerful enough to do any professional proud." *Richard Wilkinson — Professional Video Editor*



To run Eidoscope you will need:

◆ Acorn Risc PC ◆ 4 Megabytes RAM ◆ Eagle M2 card — available from Computer Concepts*

EXCLUSIVE TO THE RISC PC





Computer Concepts Ltd

Gaddesden Place, Hemel Hempstead, Herts, HP2 6EX, Tel: 01442 63933, Fax: 01442 231632, Email: Info@CConcepts.co.uk

*The Eagle M2 card digitizes and compresses videos in real time from camcorder or standard VHS tape machine and stored direct to hard disc.

The Acorn User Awards 1994: Eagle M2 card Winner: "Best Expansion Card" Runner up: "Most Innovative Hardware"

SOFTWARE

VIDEO EDITING SYSTEM





Modern graphics design is also very easy with *ProArt24*, but note the lack of anti-aliased edges.

The next generat

Does the successor to ProArtisan2 add a new band of colour to the spectrum of true-colour painting and photo retouching programs or not? Jack Kreindler finds out.

As a strong advocate of high standards of presentation, I commend Clares on its packaging and the manual for *ProArtisan24*. Very much in the vein of recent releases, the *ProArt24* box is plastered with images of the 'wow, how did they do that?' variety. It certainly tempted me to delve deeper, to seek out new tools and new image manipulation facilities and to boldly go where no software reviewer had gone before – on the Acorn platform at least.

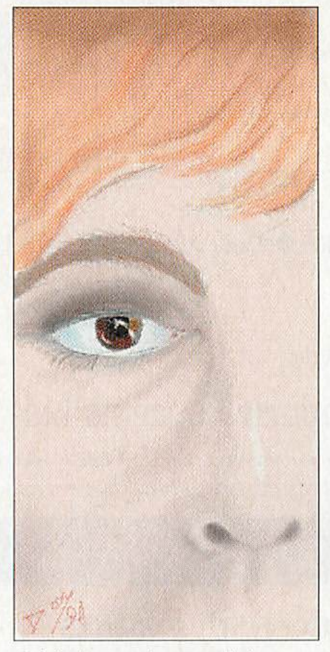
The first thing that strikes you is the familiarity of the program. The front-end looks identical to its forerunner and this will be accepted with wide open arms by *ProArt2* users. This is the first of all the 'next generation' graphics packages which looks anything like the kind of software which dominated the Acorn market of old. Certainly the learning curve was far quicker to climb than the likes of *Photodesk*, *DA's Picture* and *Studio24*.

Where is ProArt24 aimed?

Talking to Frank Dart, one of the authors of the program, it seems as if *ProArt24* has taken a very sensible approach in terms of its target market. Frank feels that *ProArt24* fills the currently vacant space between the highly capable but complex photo retouching programs and the lower-end products which graced our desktops a few years ago. His aim, as a non-artist in collaboration with John Warminsham, the other half of the programming team, has been to create a package that could take full advantage of the true colour capabilities of the Risc PC through the use of tools that could be exploited by even the most artistically challenged. He admits that his own prowess in real life painting and drawing is comparable to a neanderthal; with *ProArt24*, however, his work greatly impressed both me and the crowds of onlookers at the Clares stand at Acorn World.

After the couple of seconds that the program took to emerge on the icon bar, I soon became aware that to try to use this package in the same way as *Photodesk* or *DA's Picture* was the wrong thing to do. It was definitely back to the old days when *ProArtisan2* and *Revelation Image Pro* were the cats whiskers of the bitmap graphics world. At first I thought this was a bit of a move backwards; no virtual memory and no support for pressure-sensitive graphics tablets. But after a little getting used to, it felt good to be back.

It is clear that *ProArt24* is the next step in the evolution of the *ProArt* series and will therefore be welcomed by the thousands of school children who use the 8-bit version of the package. The one major problem I can see with *ProArt24* is that unlike some of the other painting packages around, it is not backwardly compatible with the kind of hardware that schools will be able to afford. Risc PCs with enough memory and graphics performance to reap the benefits of *ProArt24* are not the sort of filler that everyone will find in their stockings this Christmas.



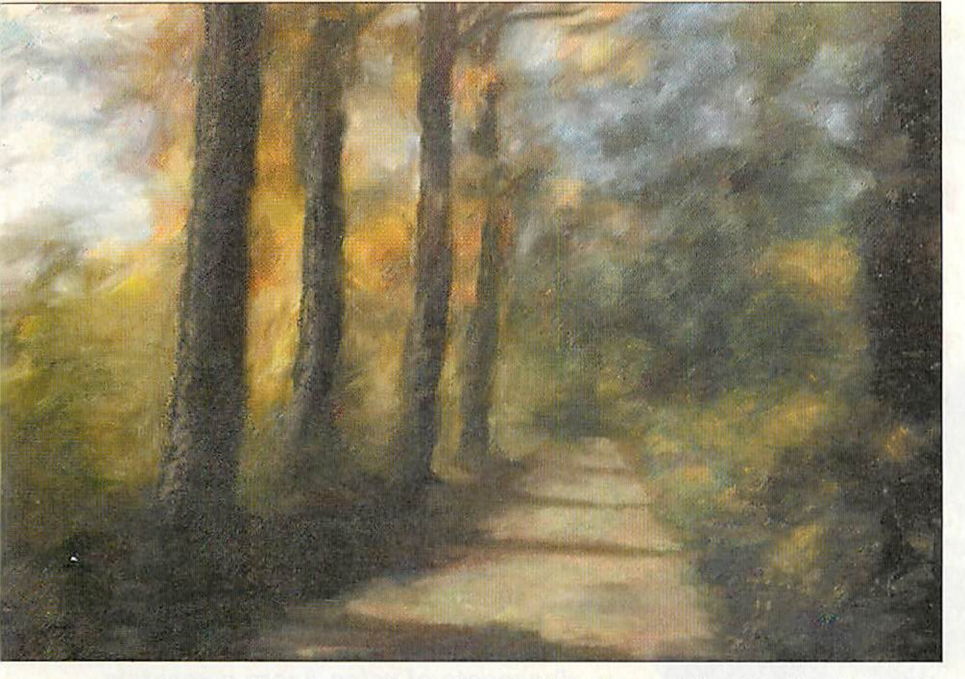
Original artwork can easily be created in *ProArt24*.

But, provided with the right hardware, there are a good number of effects and styles which can be achieved with astonishing ease. Photo CD compatibility is excellent on the program, with specific menu commands for previewing and downloading images at a variety of resolutions. Again, this is something that schools and multimedia users will enjoy but because of the lack of true photo retouching capabilities in *ProArt24*, the higher-end enthusiast and designer will be somewhat limited.

The tools available

Not wishing to bore you all with the epic list of tools which *ProArt24* has, I have chosen to pluck out the most interesting features of the program. In the painting section there is now a broad choice of traditional artists 'materials' such as watercolours, airbrush, pastel and dirty brush. In combination with effects such as texturing, a vast number of potential effects are offered to the user, and most are easier than pie to initiate. The overall effect of this variety may not be as subtle as in other packages, but the program is unparalleled in its ease of achieving the artistic effects. Especially powerful is the dirty brush, which despite the suggested effect of dirtying a given image, actually emulates oil paint smearing with a brush to an admirable degree.

The power of this tool has been successfully exploited in much of the artwork that has been created for the promotion of the package. Together with other brush functions, *ProArt24*



Impressionism and many other traditional artistic styles are easily achievable with *ProArt24.*

ion?

does seem to lend itself to very well to the style of impressionistic painting as opposed to airbrushing, sketching or graphical design – though these styles are achievable as well.

Customisable grid matrix effects from 'emboss' to 'blobby' can be applied, with additional control over contrast and brightness for each effect. These generic effects were a particular strength of *ProArt2*, and with the advantages of 24-bit colour their visual impact is understandably amplified.

New to the painting options is the clone brush which has a guide circle to depict the area being cloned. Apart from simple cloning, there are four other options for cloning images from the sprites in the sprite pool – where all cropped and cut images are stored – these being clone sprite colours, sprite textures and sprite masks.

Draw path rendering

In the drawing section little has changed, except the path manipulation options available to the user. *Draw* paths can be loaded directly into *ProArt24* and the vector paths can be rendered directly using the range of brushes available to the painter, including the chalk and airbrush tools.



An oily crayon-effect achieved from a Photo CD source – a doddle in *ProArt24.*

Frank Dart says that rendering the original files and not just the paths at variable opacities and with anti-aliasing would be possible in a future version. This would certainly make an already powerful feature better still.

The cutting tool loads screen areas into a sprite pool. From here there are dozens of predefined fades, blends and special effects to use with the pasting option. Sprite pool images can be warped, perspectivised and wrapped round spheres at the click of the mouse button. As has been said before, only a few of the options give you exact control or flexibility, but achieving a desirable effect is quicker than in other packages where gradients, masks and so on would have to be constructed first.

Just as in *ProArt2*, the palette window is broken up into various areas for making colour picking convenient, though you can also access the conventional Acorn picker. As well as choosing single colours, the 16 by 16 palette grid can be used to set multiple colours through which blends will pass and brushes will cycle. Many predefined colours such as skin tones, sky hues and earthy greens and browns have been carefully tailored to enable the user to generate life-like colour reproductions of natural and living subjects without difficulty.

The mask

Next on my list of features is the mask or 'frisket' as it is termed in *ProArt*. This is now an 8-bit function giving 256 levels of opacity. The mask can be brushed, textured, magic wanded and all the usual things you might expect. It is fast and effective. Using the manual's tutorial, great effects can be achieved and then customised for your own creations. It is strange that to achieve anti-aliased text, a rather long but well-documented list of procedures using the frisket must be used. I am sure that this routine, together with the others in the user manual for creating specific effects, would be easy to learn, but anti-aliasing plain text ought to be a one-click job at this price.

In summary, *ProArt24* is an extremely well equipped program. Its disadvantages are that it is only for Risc PC owners and that those with both Risc PCs and unfair amounts of artistic talent may not have enough of the direct control over tools and effects that they can get from *ProArt24*'s rivals. Traditional artistic effects can be easily achieved from photographs as source material, and the overall feeling is that *ProArt24* is a well-finished and well-rounded program which will definitely help the inexperienced to aid their artistic development, and flourish.

I feel reluctant to compare the program with the other graphics packages designed to have tools which must be explored before being exploited, but because of the price of *ProArt24* this is unavoidable. It lacks virtual memory and Clares' reasoning that it is Acorn's job to do this may be fair, but does not change the situation. However graphics enthusiasts will benefit far more from the simplicity, familiarity, power and features of *ProArt24* than they will lose out from not being able to create exotic, professional quality artwork so easily. If I was still just a graphics dabbler, this would definitely be on my Christmas list. AU

Product details

Product: Pro Artisan 24
Supplier: Clares Micro Supplies
Tel: (01606) 48511
Fax: (01606) 48512
Price: £169.95 inc VAT

Pros: Good user interface • Excellent range of brush effects • Consistent with earlier *ProArt* software

Cons: No virtual memory • Text not anti-aliased • Works on the Risc PC only



THE LATEST VERSION OF ALMANAC, STALLION SOFTWARE'S SUPERB PERSONAL ORGANISER, WORTH OVER £80!

when you subscribe to RISC User magazine

RISC User is the leading subscription-only magazine for Acorn users, giving you in-depth practical advice on getting the most out of your computer. RISC User builds into a comprehensive reference source on all aspects of using Acorn computers. Most back issues are still available, together with indexing software allowing you to locate any article quickly.

Our readers range from those who want to understand the technicalities of their computer, through programmers, educationalists, business and professional users, to the less experienced users who need simple down-to-earth advice without jargon. Each issue of RISC User has plenty for everyone.

All this and much more delivered straight to your door for only £21.90 a year (UK) - a fraction of the value of our free offer!

✻ THE IDEAL PRESENTS FOR CHRISTMAS ✻ ALL ORDERS DISPATCHED THE SAME DAY

RiscAction!

A collection of seven super games ranging from exciting shoot-em-ups to desktop brain-teasers. Each of these games is a gem in its own right, and we are offering all seven for the incredible price of £17.63 or £14.95 if you are a RISC User subscriber

Prices include VAT. Please add **£1.00** *for p&p and quote code* **PRA1**.

Remember Defender, one of the all-time classic arcade games? Now brought bang up to date for your Acorn with Humanoids. All the original features are there - watch the aliens gang up as you pilot your craft furiously across the face of the planet in a desperate attempt to save the humanoids!

As if this were not enough action for one disc, Robotix is written by the same author as Humanoids, and promises the same high level of excitement. Action is fast and furious as you dash about the screen rescuing other humans from murderous alien robots with your multi-directional laser weapon!

Cretin is an excellent implementation of Tetris, one of the most popular computer games ever written. This version has a very impressive scrolling background and a soundtrack that is sure to drive you mad!

When you need a breather, try Wrangler, which is a super desktop implementation of one of the most addictive forms of Patience ever devised. Be warned - once you start you will find it hard to stop!

Boffin is a high-quality graphical ladders-and-levels-type adventure game containing dozens of puzzles that must be completed in the right sequence - guide the professor to safety, avoiding the acid drops, baddies and glass beakers!

Shells is for two players, who take turns to fire shells across a random landscape in an attempt to destroy their opponent's cannon. Super graphics and high skill factor!

Sphere Zone is a challenging game for four players who take turns to place spheres on the board in an attempt to make lines of their own colour - very entertaining!

All these games are Risc PC compatible.

BEEBUG

BEEBUG Limited, 117 Hatfield Road, St Albans AL1 4JS
Tel 01727 840303, Telesales 01727 840305 Fax 01727 860263

Digital video

Ian Burley looks at the history and future of digital video on CD-ROM for the Archimedes, Jack Kreindler looks at Video CD from the perspective of an enthusiast and Sean Sollé explains some technical details.

In the beginning there was the compact disc, introduced by Philips in 1982, a digital alternative to vinyl records in the music business. In the last decade the CD has all but killed the old-fashioned record. Now it's the turn of the video market to experience the CD effect. Acorn technology makes it a good platform for digital video, hence Acorn's venture into interactive multimedia with the Online Media subsidiary set up earlier this year. Closer to home, Acorn and third-party developers are providing Acorn computer users a wide choice of digital options, starting with Replay as well as encompassing the industry standard MPEG (Motion Picture Expert Group) format, along with interesting alternatives like the proprietary Eidos compression system.

Early video CD standards

The main high-quality format for digital video is MPEG and the best examples of MPEG video can be played using a single-speed (150K/second) CD player mechanism at full-screen VHS quality. MPEG is the standard for commercially available CDs which feature movies. An earlier standard, called CD Video or CDV, played analogue video from a compact disc but this was a lot less efficient and only enabled a few minutes of playback time per disc. It was fine for video-singles but not for feature-length movies. The same analogue technology is still used in Laser Video Disc players. Even with the efficiency of MPEG, you only get a maximum of 74 minutes video playback from a single CD, so feature-length movies require two or more discs. At present, Laser discs offer arguably superior video and sound reproduction, but MPEG can produce startling results.

Once again, it was Philips which commercially pioneered digital video on CD, launching the first MPEG video movies for its CD-I (Compact Disc-Interactive) multimedia player system two years ago. In order to get CD-I video on to the market quickly – and some would say to try and establish an early lead – Philips used its own proprietary CD-ROM format for CD-I video discs. This is the so-called green book standard. Before that there was the red book (mode 1) standard for digital audio CD and the yellow book (mode 2) standard for storing computer data on CD. CD-ROM XA (extended architecture) was then introduced to enhance the mode 2 specification by enabling



The Y, U and V components of a picture combine to give a final image. Note how detailed the Y component (top) is relative to the U and V (bottom and middle). Images taken from PMI's recently re-encoded *The Whole Story '94.*

YUV separation

Although monitors tend to display colours as varying proportions of red, green and blue, our eyes don't work on the same principle. Consequently, vast regions of RGB-space that look exactly the same won't compress well because the computer treats them as distinct values. A method that better matches our vision is YUV, whereby colour pictures are represented as monochrome (Y) plus colour-differences (U,V). While the Y-signal requires 8-bits, we can distinguish shades of grey much better than colours, so the UV requires much less detail.

In fact, the picture quality of the colour components can be absolutely appalling, but as the illustrations show, once re-combined it's impossible to tell. PAL television signals are encoded the same way, which is how the BBC was able to restore a lost Dr Who story – *The Daemons* – by combining a high-quality black-and-white film with the colour from a poor copy of an American videotape. Once filtered, the picture is a great deal easier to compress, as demonstrated by JPEG's ability to reduce static images to 10% of their original file size.

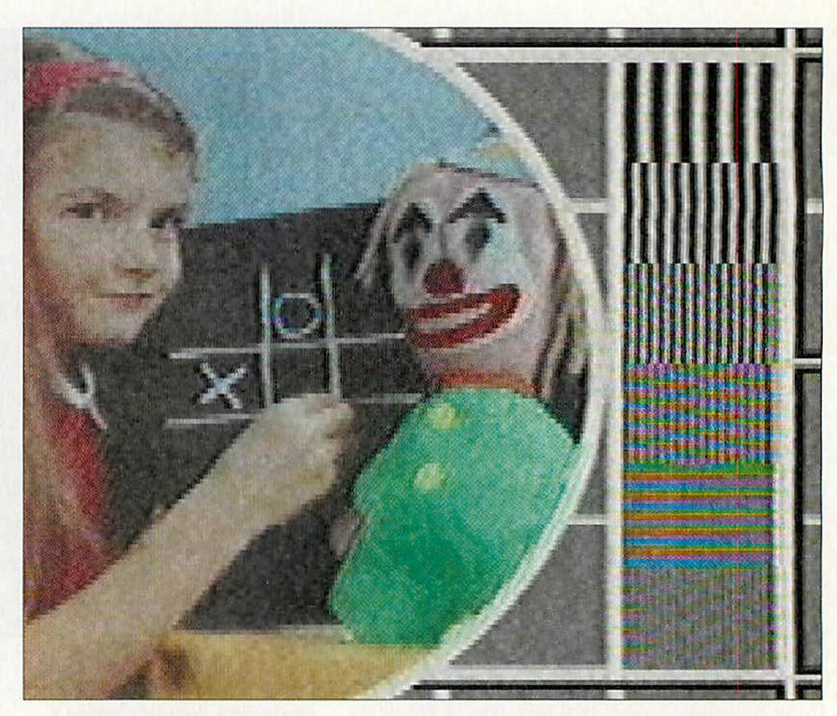
Sean Sollé

compressed audio and video to be recorded on the same track. More recently, Kodak introduced a photographic data standard called Photo CD which required XA CD-ROM drives. To access photos subsequently added to a Photo CD disc you also needed a multi-session drive, able to search the CD for a new index.

The white book standard

Back to video on CD. More recently the industry has decided to adopt an open standard which effectively replaces the Philips green book standard with a new white book standard. Most of the latest video on CD releases are white book compliant and identified by a 'Video CD' logo. The problem for computer users is that while practically all recent CD-ROM drives are XA compatible, virtually none are green book CD-I compatible and white book compatibility has only recently become available. Acorn is working around this problem by developing CDFS software drivers for specific CD-ROM drives, enabling them to read both green and white book CDs where possible.

MPEG isn't the only video compression system around. There's MPEG2 for a start. MPEG2 has a simpler compression algorithm which doesn't refer to inter-frame data. This makes it far easier to edit, but sacrifices compression efficiency, making it about five times more hungry for storage space. There is also a movie version of the popular JPEG (Joint Photographic Experts Group) still image compression standard.



Test card transmissions have a series of squares containing progressively finer vertical bars, in order to test resolution. While they're distinguishable on a live transmission (left), home recordings (right) will usually merge all but the coarsest into a grey blur.

Another interesting new standard is being developed by Eidos PLC, a company with Acorn roots. Eidos is developing a video compression standard it claims is inherently more efficient than MPEG and runs entirely from software using today's powerful computers like Acorn's Risc PC and fast Intel-based PCs and Power Macs. A junior version of the Eidos system is sold with the Computer Concepts Eagle video capture board and features some neat digital home-movie editing software called *Eidoscope*.

The future

Overall, the digital movie choices available for Acorn computer users are looking good. The new Computer Concepts Movie Magic board adds high quality MPEG playback quality to the repertoire which already includes Replay Moving Lines and Eidos. Interactive multimedia application builders using packages like Genesis, Magpie and Cable News, among others, can already use video clips using files in any of the above standards, and soon Acorn will be releasing a low-cost MPEG video compression package for making your own MPEG movies. Full-screen near VHS-quality using the system will be a reality, though commercially-produced movies using very expensive compression engines will be visibly superior. Nonetheless, amateur MPEG will still represent a significant step beyond the video in a window quality currently provided by Replay.

Ian Burley

The hitch hiker's guide to video data

Uncompressed video data is big. I mean really big. You may think it's a long way down to the chemists, but that's just peanuts compared to the space broadcast-quality full motion video needs – listen.

To give some idea of the data rates required, consider European TV pictures, which are broadcast at 25 frames per second, each frame consisting of 625 horizontal lines. Just to be confusing, the video industry also refers to the horizontal resolution as number of lines, so a domestic video recorder might be listed as 'able to resolve 250 lines', while S-VHS or Hi-8 decks will typically offer over 400. To avoid ambiguity, we'll call the measure of horizontal resolution pixels, considering the vertical resolution of video recorders is fixed at 625 lines anyway.

As a result, to capture a VHS-quality video signal digitally, you'd need to record 25x625x250 pixels every second. Since 24-bit colour uses 3 bytes per pixel, we end up with a data rate of about 11Mbytes per second.

Even if you could find a hard drive that fast – and bear in mind that even a RAM disc offers about 7Mbytes/sec – you'd need at least five dozen 600Mbyte CD-ROMs to record an hours-worth of video.

Obviously, if we want to be able to play back from a standard CD-ROM drive at 150Kbytes/second, we need to reduce the data rate. The simplest way of achieving this is to record less detail, and if you do the sums, you'll find that with only 32 thousand colours (16 bits per pixel) at 12.5 frames per second, you'd have an 80x64 pixel display. But that's a quarter of the size of standard Replay movies, so how do they manage to play back from CD?

The answer relies on the fact that although the terms data and information are often used interchangeably, they're certainly not the same thing. Imagine a completely yellow screen. Although it contains hundreds of thousands of pixels, and therefore occupies large amounts of memory, it actually contains no more information than one single (very large) yellow pixel. Clearly, it requires far less data to signify that the whole picture is yellow – compare the file size of a *Draw* file of a large yellow rectangle with that of an equivalent sprite.

This is the secret of many compression techniques; finding a more efficient method of describing the information. To achieve this, most methods of compression look for repeating patterns, and replace subsequent re-occurrences with shorthand equivalents.

Sean Sollé

The enthusiast's viewpoint

The quality of the output from the MPEG decompression card is undoubtedly the best you will have seen generated from compressed digital video. However, with the generous dollop of praise that MPEG deserves, there are a few imperfections that ought to be detailed. Firstly



there is the issue of force fields. Now what has *Star Wars*, apart from the digitally remastered version now available on video disc, got to do with MPEG? The answer is that MPEG – similar to its still picture equivalent, JPEG – compresses individual images at the cost of image quality. This tends to generate hazy auras – force fields – around areas of high contrast. This is not really noticeable at lower compression levels but at levels required to squash well over 50,000 megabytes of data onto a 650Mb disc, there are bound to be shortcomings. Force fields and the overall smoothing of the imagery is quickly accepted however, and these effects on well-compressed movies are totally acceptable.

Video CD vs VHS

The second more important issue relates to the overall cost-effectiveness of the MPEG card. With regards to the simple movie player only, questions arise to the decompressor's usefulness if one already has a good VHS or S-VHS video machine. £250 is a lot of money for a second video player.

A well-MPEGed video may be lovely to watch, but just try recording video as you can on your VHS machine. High-quality real-time MPEG compression is too computationally taxing for a range-topping ARM600 Risc PC to cope with, and even with an adequately clocked ARM700 unit, things will be limited by the data transfer limit between the computer and the video source. Even if that is overcome one day by some kind of wacky, warp-drive digitiser that plugs into the co-processor slot on the Risc PC motherboard, unless you happen to have a 1.3Gb hard disc just lying around and a CD-ROM writing device, then you run a serious risk of having enough egg on your face to make an omelette for four.

Okay, so most buyers of Movie Magic will be sold on the remarkable fact that they can simply watch movies from CDs, and to tell you the truth I'm one of them, but if you want to record video as well as playing it then conventional video is the better, or at least the cheaper bet. On a far less cynical and decidedly positive note, watching Video CDs on a big telly through a stereo hi-fi is quite an experience. Picture clarity is superior to your better-than-average VHS setup, and remember that this quality of image remains constant, irrespective of use and age – such is the nature of digital storage media. Referring back to sound, Video CD just knocks the socks off any video cassette, being to all intents and purposes CD-quality sound. Many movies since 1986 have been recorded in Dolby's five channel audio surround sound format called ProLogic. All the ProLogic information is stored on the Video CD and can be decoded and outputted by the appropriate hi-fi electronics. With a suitable sound and display system Video CD is an absolute must for the Audio Visual buff.

MPEG in a window

My preference lies with the MPEG in a window card which should be shipping around Christmas time. As MPEG video is already compressed and stored on a random access disc, you can quickly and easily pluck full PAL resolution, 24-bit frames and even clips out of films and incorporate them into your own work, copyright restrictions permitting of course. Capturing MPEG quality moving imagery from conventional video using digitisers and Replay is plainly impossible. One must not forget either that with its ability to generate error-diffused 16-bit video in a window, the MPEG card is probably the most visually impressive multimedia tool on the Acorn platform to date.

I eagerly await the future developments of MPEG, and also for video rental outlets to start stocking video CDs for £2.50 a night.

Jack Kreindler

Compressing moving images

Consider a TV presenter reading the news in a studio. Apart from facial movements and hand gestures, successive frames will contain very similar pictures. By only recording the parts of the image that change between frames, the data rate required falls dramatically. As long as typical inter-frame differences are small, this reduction tends to balance out 'surges' caused by abrupt scene changes.

However, detecting changes between frames is harder than you might think. The differences can't be considered on a simple pixel-by-pixel basis; a moving camera will alter every pixel in the image. Instead, the picture needs to be searched for whole regions that may have moved between successive frames. This is where Replay's Moving Lines and Moving Blocks compression algorithms get their name.

If the changes between two frames are extreme, encoding the differences may require more data than a complete frame, so the process is re-started with a new key frame. Using the techniques of digital filtering and temporal differences, MPEG encoding is able to offer compression ratios averaging 100:1, resulting in VHS-or-better video at 120Kbytes per second. The remaining 30Kb/s is used to record audio, APCM compressed to 1/5 of its original size.

Compressing MPEG in real time demands a huge amount of processing power. Current systems consist of multiple dedicated RISC processors with digital-signal processing (DSP) instruction sets, costing tens of thousands of pounds. Non-real time compression is also possible. Although it's not practical for feature-length films, it's ideal for computer-generated animation, where users traditionally leave machines calculating over weekends.

Fortunately, MPEG decompression is intentionally much easier. Consequently, playback-only cards that use a less powerful decoder chip can cost as little as a few hundred pounds. Over the next few years, as ARM processors get faster and acquire DSP instruction sets, software-only full-motion MPEG playback could become a possibility.

Sean Sollé

Over 13 years experience in computer direct sales!





0113 237 4000

Access · MasterCard · VISA · SWITCH

Fax HOTLINE 0113 237 4163

Vantage One Direct

FREEPOST LS5106,
Dept AUD4, LEEDS LS7 3YY

- FAST, friendly, Acorn mail order service
- All our prices include VAT
- Delivery is FAST and FREE!*
- Send us your order FREEPOST
- Discreet packaging for Christmas surprises!
- FREE quarterly news brochure – just send us the coupon opposite (Freepost of course!) to reserve your copy. Details of all the latest releases, product descriptions and exclusive special offers to you, DIRECT!

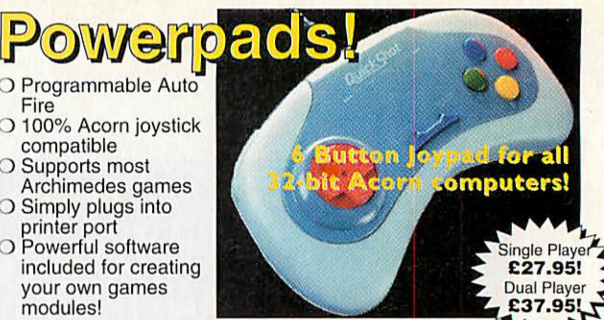
Do you wish you knew what all these columns of titles are all about?!

Please 'phone or write (Freepost!) for our latest full, and free, catalogue. It's packed with product descriptions, review comments and special offers! The Christmas issue is available now – don't miss it!



Powerpads!

- Programmable Auto Fire
- 100% Acorn joystick compatible
- Supports most Archimedes games
- Simply plugs into printer port
- Powerful software included for creating your own games modules!





Or if you prefer the more traditional style joysticks…

Joystick Interface v2.4	£39.95
Quickshot 3/Python 1 Joystick	£14.25
Superpro Auto Joystick	£15.27

(A3010 owners do not need the interface; it is not Risc PC compatible)

Pack 1:- Interface and 1 x Python 1	£49.95
Pack 2:- Interface and 2 x Python 1	£59.95
Pack 3:- Interface and 1 x Superpro	£51.95
Pack 4:- Interface and 2 x Superpro	£61.95

Save! Save! Save!

Software Clearance SALE

0113 237 4000

Only whilst stocks last – please call to confirm availability!

Title	SRP	Sale
Cyborg	25.95	16.50
Aldebaran	34.90	17.50
Tiles	19.75	11.50
Cygnus Triple Pack	19.95	11.95
Tower of Babel	24.99	7.95
Guile	29.95	9.50
Grievous Bodily 'ARM	19.95	12.62
FRED	19.99	12.75
K.V.	14.95	8.95
Corruption	30.60	9.95
Flight Sim Toolkit	44.99	15.50
Raw Power	25.00	13.50
Cyberzone	25.95	11.95
SMALL	24.95	13.95
Joymaster for A3010 (Allows the user to play older games in their collection, written prior to Acorn joystick standards.)	19.95	5.95
Jurassic Graphics Pk	29.95	17.50
Alps System	41.07	21.50
MultiFS v1.45	36.00	10.95
Photopia	24.95	14.50
QPaint	49.95	28.95
WordWorks	45.83	26.50
Time Trav. Britain 1930s	38.19	21.95
Image Animator	57.58	32.95
LC200 Colour Sprite Dump	30.60	5.00
Linkword French	46.95	26.95
Linkword German	46.95	26.95
Linkword Spanish	46.95	26.95
Multistore v2	129.95	50.00
Arclight	52.88	34.95
Mogul	29.38	19.50
Splice	35.25	23.50
Lexicon French	46.95	22.50
Lexicon German	46.95	22.50
Lexicon Russian	50.00	28.95
Navigator	52.88	30.50
Print Shop	25.95	14.50

Educational Software

Title	SRP	Our Price
10 out of 10 Dinosaurs	25.95	21.50
10 out of 10 Driving Test	25.95	21.50
10 out of 10 Early Essentials	25.95	21.50
10 out of 10 English	25.95	21.50
10 out of 10 Essential Maths	25.95	21.50
10 out of 10 French	25.95	21.50
10 out of 10 German	25.95	21.50
10 out of 10 Junior Essentials	25.95	21.50
10 out of 10 Maths-Algebra	25.95	21.50
10 out of 10 Maths Geometry	25.95	21.50
10 out of 10 Maths-Numbers	25.95	21.50
10 out of 10 Maths Statistics	25.95	21.50
10 out of 10 Science	25.95	21.50
10 out of 10 Spelling	25.95	21.50
10 out of 10 Structured Spelling	25.95	21.50
Adventure Playground	25.99	22.35
Amazing Maths	23.44	19.95
Amazing Ollie (4+)	17.99	15.95
A Mouse in Holland	-	34.66
Ancient Greece	29.38	25.95
Ancient Egypt	52.88	47.50
An Eye for Spelling	41.13	36.95
Animated Alphabet	-	26.97
Animated Numbers	-	26.97
Arcventure 1 - The Romans	-	37.54
Arcventure 2 - The Egyptians	-	37.54
Arcventure 3 - The Vikings	-	37.54
Around World in 80 Days	-	46.94
Astro	35.25	31.95
Aztecs	-	46.94
Badger Trails	-	46.94
Balloons & The Zoo	23.50	21.95
Bearsheet (Jnr Spreadsheet)	29.95	26.95
Bearwords (Jnr Word Proces)	42.95	39.95
Best Four Adventure	44.06	39.95
Best Four Language	44.06	39.95
Best Four Maths	44.06	39.95
Betsi	-	40.54
Billy - Bothersome Bully	-	11.69
Bobby the Boastful Bird	-	11.69
Bodywise	-	46.94
Bookstore (Primary)	46.41	40.95
Bumper Disc 1 or 2 (Each)	23.95	19.95
Cars in Motion	58.69	51.95
Castle Life	52.88	47.50
Castle of Dreams	25.99	23.50
Chemistry Superstar	27.03	24.50
Christmas Adventure	25.99	23.50
Clarence the Clumsy Cat	-	11.69
ClassPrint LD	82.25	74.95
Coffee (9-15yrs)	34.99	30.50
Complete Control	46.94	41.95
Concept Designer Pack	28.20	25.50
Connections	-	34.02
Control Logo	29.38	24.50
Crossword + (8-Adult)	19.95	16.95
Darryl the Dragon	-	22.91
Derek's Dopey Dinosaur	-	11.69
Dinosaur Discovery	-	32.31
Dktp Folio Editors Pk	26.44	23.95
Dktp Folio W. War 2 Pk	26.44	23.95
Dktp Folio Christmas Pk	26.43	23.95
Dktp Folio - Festive Folio	22.91	19.95
Dktp Folio Space Pk	26.43	23.95
Dktp Folio Maths Pk	26.43	23.95
Doris the Dotty Dog	-	11.69
Earthwarp	28.20	25.50
Edwina's Energetic Elephant	-	11.69
Egypt Extras - Genesis	17.63	15.95
Farmer Giles 2	20.39	14.95
First Logo	28.20	24.50
First Numbers	-	19.95
First Steps Collection	-	51.70
First Steps to Numbers	-	20.68
First Steps to Reading	-	20.68
First Words with Smudge	25.99	21.95
First Words	-	23.45
First Words & Pictures	27.03	22.95
Fleet St Phantom	-	31.67
Flight Path	34.99	30.55
Flossy the Frog	-	28.79
Freddy Teddy (3-7yrs)	17.63	15.95
Freddy Teddy's Adventure	17.63	15.95
Freddy Teddy - Playground	29.38	26.50
Frontier 2000	93.94	89.95
Frontier 2000 CD ROM	129.25	116.50
Fun & Games (5-9yrs)	19.95	16.95
Fun School 3 Series (Each)	24.99	19.95
Fun School 4 Series (Each)	24.99	19.95
Fun With Numbers	23.45	19.95
Fun With Words	23.45	19.95
Geordie Racer	28.20	25.50
Giant Killer Project Pack	32.25	29.95
Gordon's Groovy Granny	-	11.69
Granny's Garden	-	28.79
Granny's Garden CD-ROM	-	39.95
Graph-It	-	23.44
Greeks	52.88	51.50
Hilighter	-	41.07
House of Numbers (6-13yrs)	27.03	22.95
Imagine V2 (needs 2Mb)	47.00	42.50
Insight	81.08	71.95
Investigating Maths (9-13yrs)	44.06	39.95
Junior Pinpoint	34.08	29.50
Kid Pix	44.06	39.95
Landmarks Packs (Each)	28.20	24.50
Let's Play Games	23.45	19.95
Let's Play With Money	23.45	19.95
Let's Play With Numbers	23.45	19.95
Let's Play With Words	23.45	19.95
Let's Play & Learn	23.45	19.95
Let's Play With Shapes	23.45	19.95
Letters & Pictures (6-8yrs)	23.50	19.95
Logotron Logo	81.08	71.95
Look! Here! Packs (Each)	-	14.04
Look! Hear! Volume One	-	70.21
Lots More Fun & Games	22.95	19.95
Lucy the Little Liar	-	11.69
Magpie	69.33	58.75
Make "n" Match	9.95	8.95
Mapping Skills	34.66	31.95
Maps & Landscapes 1 or 2 (ea)	27.03	22.35
MapVenture	-	31.67
Maths Circus	-	32.31
Maths Pack 1 (5-7yrs)	12.95	10.95
Mega Maths (A-Level)	25.22	21.95
Mental Maths (5-16yrs)	9.95	8.95
Micro English (8yrs - GCSE)	25.22	21.95
Micro French (8yrs - GCSE)	25.22	21.95
Micro German (8yrs - GCSE)	25.22	21.95
Micro Maths (11yrs - GCSE)	25.22	21.95
Micro Science (8yrs - GCSE)	25.22	21.95
Micro Spanish (8yrs - GCSE)	25.22	21.95
Music Box	41.13	39.95
My First Words	23.44	19.95
Nature Park Adventure	-	34.00
Newton	22.50	19.95
Noddy's Playtime (OS 3 & 2MB)	25.99	21.15
Numbers in the Nat. Cur.	44.06	39.95
Numbers/Pictures (4-6+yrs)	23.50	19.95
Numerator	45.83	38.75
Number Tiles	35.25	32.95
Ollie Octopus Sketchpad	17.99	15.50
ORT Stage 2 - Talking Stories	-	46.94
ORT Stage 3 - Talking Stories	-	46.94
Pirate	27.03	22.95
Playdays	25.99	23.50
Podd	32.31	29.35
Polyominoes	29.38	26.50
Primary Maths Course (3-12yrs)	25.22	21.95
Primary Nature	52.88	47.50
PrimeSolver	92.83	84.50
Punctuate	23.50	19.95
Puncman 1&2 (7-13+)	23.50	19.95
Puncman 3&4 (8-14+)	23.50	19.95
Puncman 5, 6, & 7 (8-15+)	23.50	19.95
Recall	-	46.94
Reversals	23.50	19.95
RoboLogo	49.95	44.50
Rosie and Jim - Duck	-	11.75
Rosie and Jim - Sneezes	-	11.75
Round World Yacht Race	34.99	29.95
Saxon Life	52.88	47.50
Screen Turtle (Desktop)	52.88	47.95
Sea Rescue	-	31.37
Search & Rescue (9-15yrs)	34.95	29.95
Sea Rescue	-	31.67
Sellardore Tales	-	29.32
Sherston Naughty Stories Pk 1	-	58.46
Sherston Naughty Stories Pk 2	-	58.46
Skyhunter	28.20	25.50
Smudge the Spaniel	25.99	21.95
Somerset Talking Cmp Project	34.08	29.95
Space City	-	31.67
Space Ship Mada		31.67
Spelling Week By Wk (6-13)	27.03	22.95
Splash	-	23.44
Stig of the Dump	-	28.14
Story Starts	-	26.96
Talking Rhymes (Each)	-	14.10
Talking Rhymes Pack	47.00	42.95
Tasmin's Terrible Tantrum	-	11.69
Teacher's Cupboard	-	34.00
Teddy Bear's Picnic	-	31.65
Terry's Tricky Trainers	-	11.69
The Art Mchne Pk 1 or 2 (Each) (9+)	35.25	31.95
The Crystal Rain Forest	-	46.94
The Farm	23.47	19.95
The Puddle & The Wardrobe	23.50	21.50
The Worst Witch	-	31.67
Things to do with Numbers	25.50	21.75
Through the Dragon's Eye	28.20	24.95
Time Detectives - The Victorians	-	46.94
Time Traveller - Britain 1930s	38.19	21.95
.. And Resource Pack	67.50	59.95
T. Trav. Exp. Trade & Ind.	46.41	41.75
.. And Resource Pack	69.85	62.95
T. Trav. Make your Own	44.06	39.95
T. Trav. Making of the UK	46.41	41.95
.. And Resource Pack	69.85	62.95
T. Trav. Medieval Realms	46.41	41.75
.. And Resource Pack	69.85	62.95
Time Traveller - Victorians	38.19	34.95
.. And Resource Pack	67.50	59.95
Tina's Terrible Trumpet	-	11.69
Tiny Logo/Tiny Draw (4-9yrs)	29.38	26.50
Tiny Puzzle	23.50	21.50
Toby at the Seaside	-	31.65
Toby - Troublesome Tractor	-	11.69
Topographer	79.95	71.50
TV Fun & Games	22.95	18.95
Viewpoints	-	46.94
Viking Invaders	52.88	47.50
Voyage of Discovery	-	37.54
Weatherman	9.95	8.50
Welsh Podd	46.41	41.95
Whale Facts	23.50	19.95
Word Bank	23.50	21.50
World Map Study	79.31	71.50
Worldmaker	67.56	59.95
Words & Pictures	27.03	22.95
Yes Chancellor 2	27.03	24.95
Zig Zag - Anglo Saxons	34.10	29.95

Prices correct E & OE

Education Special!



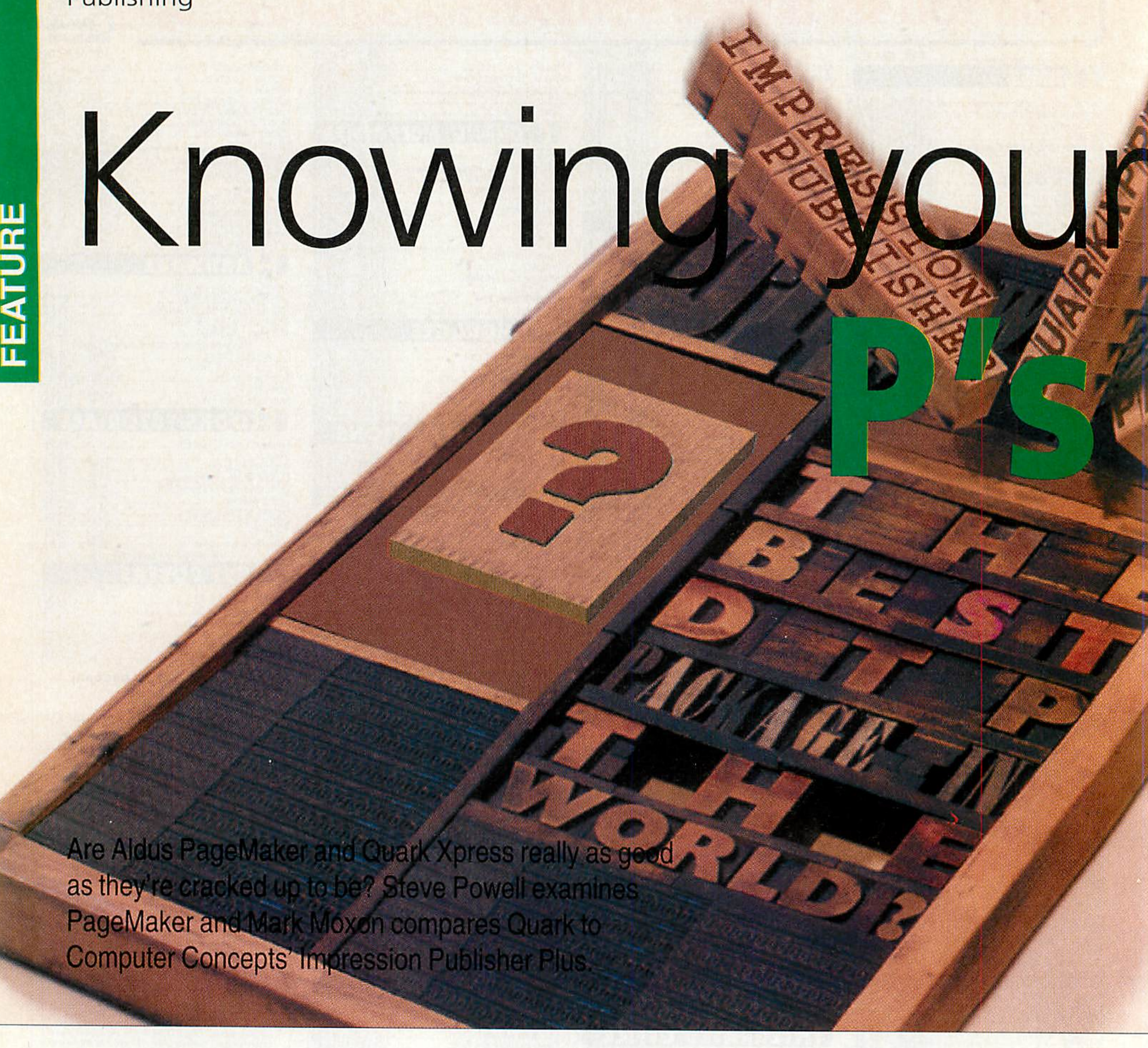
Buy any of the 10/10 packs @ £21.50 inc:- Early Essentials, English, Spelling, French, Junior Essentials, Maths-Algebra, Maths-Number, Maths-Statisitcs, Dinosaurs, Structured Spelling, Essential Maths, Maths Geometry, German, Science

and get the new 10/10 Driving Test for only £2.50!

Extra discount for educational establisments – send for a Teacher Pack or 'phone for details! Site Licences also available!

WHAT YOU SEE IS WHAT YOU PAY! Everything Inc VAT & carriage!

Knowing your P's



Are Aldus PageMaker and Quark Xpress really as good as they're cracked up to be? Steve Powell examines PageMaker and Mark Moxon compares Quark to Computer Concepts' Impression Publisher Plus.

Quark Xpress is, without doubt, the industry-standard page layout software that all others must measure up to. However, if you use a PC you are far more likely to be using *Aldus PageMaker* than *Quark Xpress*.

PageMaker even gives *Quark* a run for its money on more than a few Macs and when you consider that it has an extremely long list of features that *Quark* doesn't, you start to see why. If Acorns are going to make it in the publishing field they'll need to compete against *Aldus* as well as *Quark*.

So is there anything we can learn from our more commonplace competitors? *PageMaker* certainly has more than a few tricks it can teach us, so let's take a look at Aldus' offering before tackling *Quark*.

PageMaker on the PC

I'll ignore the fact that Windows is a poor comparison to RISC OS and that 'drag and drop' is an idea that has only just surfaced on the PC. I'll also ignore the fact that a very beefy PC is needed to get *PageMaker* redrawing as quickly as *Publisher*, and I won't mention that a copy of *PageMaker* would buy you two copies of *Publisher*. Let's try and concentrate on its 'real' advantages.

Like *Publisher*, your document is based around a master page template. This page should contain all the graphics and text that you want to repeat on every page. On the master page you can place column guides for your text columns and ruler guides which objects can snap to; these equate to *Publisher*'s guide frames. You're limited to 40 ruler guides but you'd be hard pressed to run out even on extremely complex documents. A text alignment grid is generated automatically by your base style.

Unlike *Publisher*, when you start a new document you have to specify an output printer so that *PageMaker* can determine which fonts are available for you in your document. You can print proofs on any printer, but if you intend to output the finished document to a typesetter you'll need to specify this at the beginning. You can change the target printer later but be prepared for an awfully large number of time-consuming alterations. Once you've decided your page size, orientation, margins, number of columns and style you're ready to go.

Like *Publisher*, your document contains stories. These can be 'placed' from external files or typed in directly. You can import and export the text in a story in a whole variety of ways and *PageMaker* takes care of flowing the text from column to column as you create them.

Flowing your text around graphics is easy enough and irregular frames are supported with most types of graphic. *PageMaker* doesn't support frame borders but it does have a set of line and shape drawing tools, and although placing text inside circles isn't exactly straightforward, it can be done without needing to resort to a separate drawing program.



Publisher can show text at small point sizes without any 'greeking'. Notice, also, that you can specify the border width here in points, but for regular frames it has to be a choice between just three normal borders, and a number of fancy ones.

Words & pictures

Once your text is in *PageMaker* you can import graphics in a similar manner, with all of the common graphics formats supported. However, your text does have a nasty habit of 'greeking' when you try and view the entire page: greeked text appears as grey bars rather than the actual words themselves. It is annoying that even if the text is a different colour it still greeks to grey bars – so much for WYSIWYG.

You can edit the text on screen, although there is a story editor available which will also display details of the styles used and show you all the invisible characters in the document. This can help you pick up everything from double spaces and misuse of styles to errant soft carriage returns that'll do unpleasant things to your text flow. The story editor is far faster when undertaking major editing and can display your text in an easy-to-read font rather than the one required by the style. This isn't very WYSIWYG either, but if you're sitting in front of a monitor all day you'll appreciate a more legible font.

When it comes to graphics handling, *PageMaker* has none of *Publisher*'s colour adjustment facilities for graphics. You can adjust the brightness and contrast of greyscales but that's about it. Cropping, moving, rotating or resizing a graphic is easy enough, but these are four separate tools rather than one and this strikes me as unwieldy.

Aldus extras

PageMaker comes with a host of utilities that *Publisher* lacks. It accommodates rotated text, and comes with an extensive range of standard additions such as drop caps, bullet numbering, expert kerning, font lists, colour libraries, booklet building and running headers/footers.

Some of these are available in *Publisher* but some of the more obscure or powerful ones aren't. Having said that, the ability to swap adjacent characters and the case of characters is a very noticeable omission and *PageMaker* doesn't support macros, so you can't even write your own.

Publisher's ability to automatically kern text using RISC OS 3 fonts is streets ahead of *PageMaker*'s expert kerning, and *PageMaker*'s booklet building is far more involved than it needs to be.

Spot the difference

PageMaker has a firm grip on colours with common spot colour libraries such as the Pantone library pre-defined. You can mix both spot and process colours freely and define your own. It can print separations easily and offers a comprehensive set of printer's marks such as crop marks and registration targets, as well as density and colour control bars alongside each.

Its proofing ability falls down because under Windows, fonts frequently have a nasty attack of jaggies at unusual sizes. This isn't *PageMaker*'s fault, it's just that font rendering on the PC hasn't quite caught up with the Arc yet – after all they've only had four or five years to sort it out. Printing is also excessively slow, although I am used to Computer Concepts' *Turbo Drivers* so it's hardly surprising Windows feels slow.

OPI is fully supported by both, and *PageMaker*'s integration with *Aldus TrapWise*, *PressWise* and *PrePrint* means there should be no problem getting your document from screen to press. *Publisher* has no trapping editor, though how much your average DTP user needs trap editing is debatable.

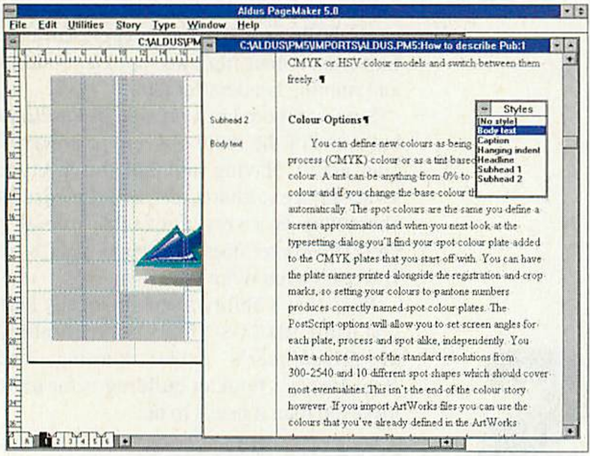
The Mac connection

Porting *PageMaker* documents between the Mac and PC versions is incredibly pain-free, although getting linked graphics translated over is no mean feat. The PC and Mac versions look surprisingly similar and although the Mac's 'publish and subscribe' facility isn't supported on the PC it's a feature few will miss.

PageMaker links in well to both *PhotoStyler* and *FreeHand*, Aldus' painting and drawing programs. It also supports OLE with everything from *Word* to *CorelDRAW*, although having any two of them loaded at the same time results in continuous hard disc access unless you've got 16Mb of RAM.

Greener grass?

I have to confess that I rather like *PageMaker* – well I like it more than *Quark*. The story editor is certainly an idea worth plagiarising if *Publisher* is ever to be used to sub-edit large lumps of text in something like a magazine environment.



In *PageMaker* you can edit text inside its frame if you wish, but there's a very powerful 'story editor' which does the job in a separate window and offers a whole host of useful tools for anyone who has to edit large chunks of text.

And *PageMaker* also has some nice features like rotating text, drop caps and running headers/footers that would be well received by *Publisher* users.

Publisher Plus does, however, measure up very favourably indeed. It may need a little more polishing but any fair assessment would be hard pressed to find serious fault with it.

Top Quark?

Quark XPress is the most popular DTP program in the world, and is used predominantly on the Mac. It's the package used to create most of *Acorn User* – though *Publisher* is now used for a number of pages each month – and on the whole it does a good job. If it has drawbacks, they are mostly connected with limitations in System 7 – the Mac's operating system – and the package's huge price tag.

Comparing DTP programs of the calibre of *Quark* and *Publisher* is tricky: you can easily get sidetracked by long feature lists, without considering qualities such as ease of use, speed and the quality of output. Having laid out full magazines on both an Acorn and a Mac – both machines being extremely fast examples of their kind – I would definitely stick to *Publisher* given the choice, but I get the feeling that this is more down to my familiarity with RISC OS than System 7. Drag and drop, anti-aliased fonts, redraw speed, context-sensitive menus: all of these are features of RISC OS, rather than *Publisher* itself, and a lot of the things I don't like about *Quark* are really criticisms of System 7.

Publisher problems

There are a few areas where *Publisher* has fundamental problems, and these in themselves are enough to make *Quark* the obvious choice. The first, and most important, is that *Publisher* cannot handle very large images without large amounts of memory – there is no virtual memory implemented.

To load an 8Mb image – not a large image when it comes to professional-quality scans – you need to have at least 8Mb free, so if you are regularly dealing with 24Mb scans, which is the average size of an A4 scan, you are stuffed unless you have that much memory. This is impossible on any machine other than the Risc PC, and 24Mb will set you back a lot of money, considerably more than the price difference between *Publisher* and *Quark*.

Another area where *Quark* scores is with its line tool. You can draw lines of any thickness and colour, with arrowheads and so on, and they act as distinct objects. In *Publisher* you can create orthoganal lines by creating frames and giving just one side a border, but diagonal lines have to be created in *Draw* and imported into a graphic frame, which is hardly satisfactory. Another drawback of *Publisher* is the specification of a line thickness: you have to choose between borders 1, 2 and 3 for normal black borders, and it's only on irregular frames that you can specify the thickness of the border in points.

Other important advantages of *Quark* include irregular text frames, a very flexible document layout window, tracking and kerning table editors, automatic object alignment (like in *ArtWorks*), easy-to-use picture styles, and built-in effects like shadowing, drop caps and outline.

Greeking

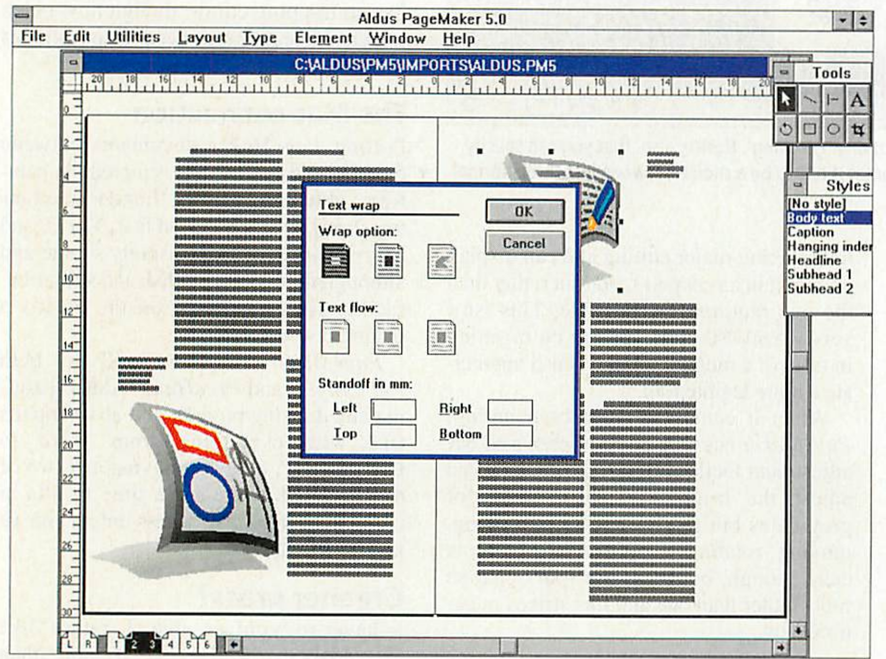
However, *Publisher* does have its advantages. First, it is faster than *Quark*, unless memory is tight – when the whole system slows down considerably. Also, because *Publisher* loads sprites and vector images in as a whole, it can display the graphics as they look: *Quark* only manages a very low resolution version of the graphic, making accurate alignment and cropping rather a challenge.

Greeking, as with *PageMaker*, is also a problem in *Quark*, and you really have to zoom to a considerable magnification to be able to read the text properly. But even then, editing the text is a pain: the font display is primitive compared to the anti-aliasing of the Acorn, and deciding whether there *is* a space between two words is a challenge.

There are also fewer word processing features than in *Publisher* – *Quark* lacks case changing, drag-and-drop editing, a thesaurus, contents and index generation and so on. However, *Quark* is aimed at magazine production, where text is 'subbed' – or edited by a sub-editor – in a separate word processor, like *Word*, before being dropped into *Quark*. This approach is a little archaic, though: you don't get styles and so on in *Word*, and on the Acorn we use *Publisher* both to sub and to lay out, which goes to prove that *Publisher* is a capable word processor in its own right. You can't say that of *Quark*.

The main difference between *Publisher* and *Quark*, though, is a very serious one – *Publisher*'s styles can be applied to anything from one letter to a whole document, but *Quark* uses paragraph styles, so styles can only be applied to paragraphs, defined as the text between two carriage returns.

This is an incredible pain, and makes applying styles such as small caps – which we use for acronyms like SCSI and RAM – impossible: you have to apply a local effect



PageMaker automatically takes care of flowing text from column to column when you place the text, but there are several ways of flowing it round graphics files which are dependent upon the type of graphic and the way you've placed it. Notice that the text is 'greeked' when it's too small to read. The caption is also 'greeked' to grey even though the text colour is set to red.

to that word by manually setting the font size to 7.8 point. That's all very well, but it's then very hard to remove this effect: you must manually reset the point size to what it was before you applied the effect.

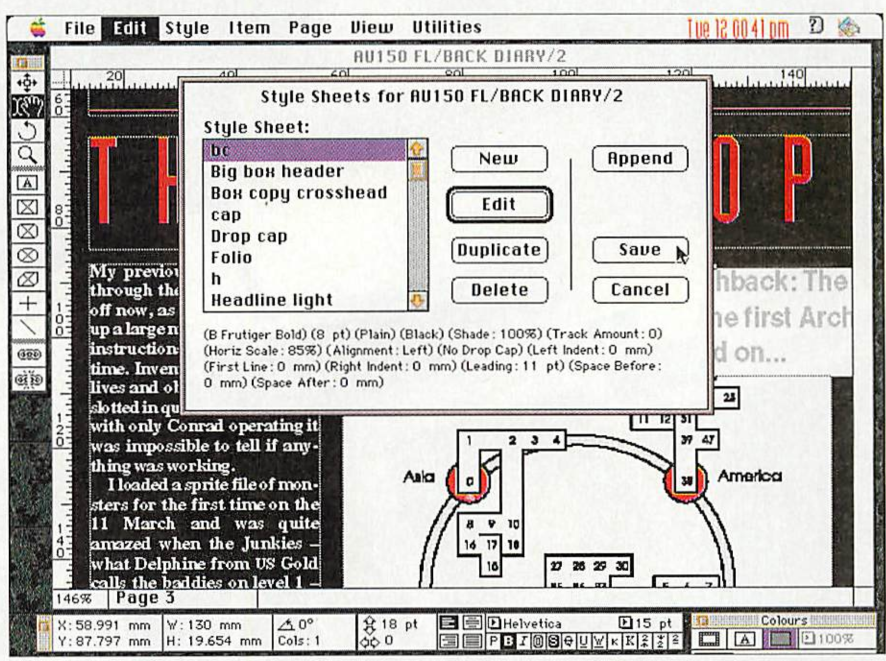
Quark Inc, the US company behind *Quark*, does recognise the importance of styles that can be applied to any character: it's one of the major new features planned for *Quark XPress 4*. But it's not available yet, and it's a great shame. *Publisher*, on the other hand, allows you to apply a style to any size of selected text, and even lets you specify that a style should apply to a whole paragraph if you want.

Pay up

Another big difference between the two packages is that Quark Inc charges for its customer support, but CC's is free. This might not sound too important, but considering Quark support costs £150 per annum, you're stuck if you have a low budget.

Publisher also scores with its easy-to-use colour map editor, which is more intuitive than *Quark*'s, and the creation and editing of irregular frames is easier in *Publisher* than in *Quark* – however, *Quark* has the very useful feature of automatically setting the repel round a graphic to the shape of that graphic, so repelling text round a circular graphic is quicker to do in *Quark* than *Publisher*, though it's possible in both. *Quark* has automatic drop caps, but *Publisher can* do them, although the method is a little convoluted: see below.

Finally, what about stability and bugs? I've used *Publisher Plus* constantly for two months, and I have to question its stability in some areas. When creating very complex master pages, closing the window and going back to the main document can cause a crash with the helpful message 'Error EG01', and you've lost all your work. Another problem is that 'Fit to frame' simply doesn't: it fits to something just smaller than the frame, which is useless for fitting rectangular sprites in a frame with a border.



Style sheets in *Quark* have to be applied to a whole paragraph, unlike in *Publisher*. Local effects can be applied using the floating toolbox – or palette in Mac terminology – at the bottom of the main window.

Quark is more stable, it has to be said, though its crashes tend to be quite spectacular, and there are a number of obscure bugs that only appear when you've printed separations to film: witness the '132-page special' flash on the November issue, which came out correctly on separations printed to a laser printer, but failed with the Linotype machine.

Conclusions

In summary, *Quark* is a very sophisticated package, and so is *Publisher*. Which you choose depends on personal taste, and has a lot more to do with the operating system you prefer. If you like drag-and-drop saving and loading, context-sensitive menus and real multi-tasking, then you want RISC OS and *Publisher*. If you like the Mac's save and load dialogue boxes, menu bar along the top of the screen and multitasking where you can only see one program at a time, go for the Mac and *Quark*.

On the side of functionality, if you need to deal with very large scans but can't afford huge amounts of memory, you have to go for *Quark*. If you need to be able to use universal styles, don't want to pay for support and will never use features like trapping and drop caps, *Publisher* will be ideal. At the end of the day, it's a matter of taste and finances. Give *Publisher Plus* irregular text frames, a bit more stability, virtual memory and drop caps, and regardless of price, *Publisher* is comparable to *PageMaker* and *Quark*, and outshines them in some areas.

Rumours on the grapevine says that if *Camelot* – *ArtWorks* for Windows, effectively – takes off, Computer Concepts will release a DTP program for Windows. If it is based on *Publisher Plus*, it should do very well indeed. AU

Drop caps in Publisher

Contrary to popular belief, it is possible to create drop caps in *Publisher*, and indeed we use this method in *Acorn User* for the *Questions and Answers* pages.

The method, while a little convoluted, works well, and relies on the flexibility of *Publisher*'s DDF (Document Description Format) language. Let's take the example of a capital Q, which we want to be a drop cap over two lines, and to be in 24pt Homerton Bold. This works over a body text definition 9pt text on 10pt line spacing. First, create a text file with one line containing the following (examples are contained on the cover disc):

```
{define ruler "Drop cap Q"; leftmargin 21pt; tabs 21pt;}{font Frutiger.Bold}
{fontsize 24pt}{linespace 10pt}{kern 0 90}Q{kern 0 435}{linespace}{fontsize}
{tab}
```

and save this with a suitable name, say *DropCapQ*. Now position the caret in *Publisher* where you want the drop cap to be – at the start of a paragraph, obviously – and drag the text file into the window. A drop cap will appear, but it's not quite right. Now select the whole paragraph and apply the style 'Drop cap Q' to it, and it will indent. Now select the whole paragraph except for the first two lines, and remove the drop cap style. And there you have it... drop caps in *Publisher*.

The above works by vertical kerning, and you can play with the values for line spacing and kerning by changing the relevant values in the text file.

Product details

Product: Impression Publisher Plus
Supplier: Computer Concepts
Tel: (01442) 63933
Price: £299

Product: PageMaker
Supplier: Aldus
Tel: 0131-453 2211
Price: £695

Product: Quark XPress
Supplier: Computers Unlimited
Tel: 0181-200 8282
Price: £895



REVIEWS

"The images rendered by the 360dpi engine leave the HP DeskJets standing."
Acorn User

"This is a very impressive package and is worthy of our Best Buy rating."
Archimedes World

"Overall this is an extremely impressive printer and coupled with Computer Concepts' TurboDriver, represents the best colour printing system to appear on Acorn computers so far."
Acorn Computing

Colour Solutions

ScanLight Professional Colour, PhotoDesk & the Canon BJC-600



COLOUR SCANNING

The IX-4015 is Canon's new A4 flatbed 24-bit colour scanner. It offers scanning resolutions up to 800dpi in full colour or 1200dpi in monochrome. The scanner itself is very compact and offers fast scanning speeds. This is a SCSI based device which works with all fully Acorn compatible SCSI cards.

PHOTO MANIPULATION

For manipulation of the image at a professional level, Computer Concepts have chosen Spacetech's PhotoDesk, a 24 bit painting and photo retouching package, worth £198 in its own right. PhotoDesk offers a wide range of advanced image manipulation features, such as 8-bit masking, pressure sensitive airbrush tool etc.

The package also includes scanner drivers and an interface lead for existing SCSI cards.

A4 COLOUR PRINTING

The BJC-600 is a full colour A4 inkjet printer from Canon, which offers high quality colour printing at an affordable price.

The quality is a result of the 360 dpi print resolution (that's 40% more dots per inch than a 300dpi printer) and the use of four separate colour ink cartridges. The special 'fast dry' inks help prevent ink spread on plain paper - and the use of plain paper ensures low running costs. The BJC-600 has a built in 80 page sheetfeeder and comes with a one year warranty. The package comes with the ultra fast 24 bit colour TurboDrivers, a user guide, colour documentation guide, all necessary cables, sample inkjet transparencies, DOS and Windows drivers.

PRICES

BJC-600 & TurboDriver:
£389.00 + £10 p&p + VAT (£468.82 inc)
hard disc recommended.

ScanLight Professional colour & PhotoDesk:
£749.00 + £10 p&p + VAT (£891.82 inc)
a fully Acorn compatible SCSI card required.
Works on all models of Acorn RISC computers with 4MBytes and RISC OS 3.1.

A suitable SCSI card can also be supplied for an additional £150.00 + VAT (£176.25).
PhotoDesk can be purchased as a stand alone package for £169.00 + VAT (£198.57 inc).



Computer Concepts Ltd

GADDESDEN PLACE HEMEL HEMPSTEAD HERTS HP2 6EX TEL: 01442 63933 FAX: 01442 231632 EMAIL: Info@CConcepts.co.uk

Scan this

With the Risc PC's arrival, high quality 24-bit scanners are appearing for the Acorn platform. Vita Regan looks at what is involved in choosing the right scanner.

'I can't do it because it hasn't got the dots, and I'm a professional' – Lemmy out of Motorhead on *French and Saunders*.

Apart from your computer and monitor, a scanner is one of the most expensive pieces of hardware to purchase, so it is important to see what is available, appropriate to your needs, and least damaging to your bank balance.

It is only in the last couple of years that 'professional' colour scanners have been appearing on the Acorn platform, but scanners have been around in one shape or form for about 40 years. The first scanner was constructed by Russell A. Kirsch et al at the American National Bureau of Standards in the early 1950s.

This was a very simple mechanical drum scanner and worked by tracing the variations in intensity over the surface of a photograph. The resulting photomultiplier signals were converted into arrays of 1176 by 176 binary digits and then fed into a SEAC 1500 computer. This was programmed to extract line drawings, count objects, recognise characters and to produce oscilloscope displays. The first scanned digital image was viewed on an oscilloscope.

As a photographer I like to think of the scanner as a 'copying' camera. I ask for a lot from scanners, because if I have spent a lot of time originally producing a fine print I do not want the subtleties to be lost. In photographic terms I want to keep the contrast and the tonal range – detail in both the shadow and the highlight areas. I go through a similar process when taking the original photograph to ensure optimum exposure for specific areas and to see if the image's tonal range fits within that of the film. If not then I would adjust the exposure for the area I wanted the most detail in. For scanners this should be redundant because I already have a hard copy, therefore it should be reproducible, making only a small compromise on the quality.



Flatbed or a hand held? Well, it's neither really: a sort of hand held flatbed, I suppose.

Resolution and dpi

The ability of a scanner or digitiser to accurately render an image depends upon its ability to resolve the bits of information the image contains. This ability is rated in three ways, with a higher number being better than a lower one: the raw ability to discern the image is rated in dots per inch (dpi), the ability to discern the shade or tone of the resolved dot is rated in bits per dot and the ability to discern colour is rated as yes or no.

The resolution of low-end scanners ranges from 100-1000dpi, with 200-400dpi being the most prevalent. Medium range scanners can resolve from 300-1200dpi and the high-end is anything beyond 1200 dpi. Low-end scanners regard their dots as either on or off, with no concept of grey or colour. Greys are approximated by the spacing of the dot pattern; the more dots the darker the area. The main use of this type of scanner is for line art or photographs printed from lith film which have no greys or colour, and they are perfectly adequate for this.

Medium range monochrome scanners, called greyscale scanners, are capable of grading each dot with 8, 16, 24 or 32 bits of information. The most common greyscale scanners are 400-600dpi, 8-bit or 24-bit units that deliver a continuous tone shift from black and white. A 24-bit greyscale scanner at 600 dpi easily meets the print image quality and is therefore acceptable for medium grade photographic proofs.

Medium range colour scanners are 24-bit or 32-bit units with resolutions of 300-1000 dpi. 24-bit 400dpi colour images are frequently used in computer and other commercial magazines. High-end scanners can faithfully reproduce colour film at resolutions exceeding 3500dpi and with 36-bit accuracy (68 billion colours). These are really too expensive to consider in this article.

On the PC, many low to medium level scanners come with an added bonus of optical character recognition (OCR) software that can can decipher text from a scanned or faxed bitmapped image. On the Archimedes two such packages exist: *Optical* from Neurotron Software and *Sleuth* from Beebug.

Flatbed scanners

Flatbed scanners are the most common and look like office photocopiers. They use a light source,

a sensing device, and a stepper motor to move the sensor and light source, which illuminates the 2D object or photo to be scanned. The image is placed face down on the glass bed and, using the software that comes with the scanner, the computer is used to direct the scanning head and to read the image, converting it into a digital file.

Flatbed scanners are commonly used by artists, photographers, graphic artists, and as part of DTP, having the advantages of being competitively priced, easy to set up and use, ideal for OCR, line art and some photographic work, and the ability to work well in a network. They do have disadvantages: they are bulky, cannot – without attachments – scan transparencies, negatives or 3D objects and the glass must be kept free of dust and grease.

Flatbed scanners work like photocopiers. An image (max 11in by 14in) is put on the glass and covered with a light-shielding lid. The light source, usually a fluorescent light, reflects light off the image and back to an array of CCD light-sensitive cells. The desired dpi and image enlargement or reduction are set by the software. Most colour scanners need the scan heads to make three passes – one for each of red, green and blue – and the combination of these produces a full colour picture on the monitor.

Film scanners

Transparencies (slides) may be scanned by film scanners or by special adaptors on flatbed scanners. They have a wider range of brightness and colour saturation than reflective materials such as colour prints.

While this makes it impossible to use standard flatbed scanners to scan transparencies, it also means that transparencies generally produce sharper, more detailed images when scanned. Of course, prints are also very time consuming and expensive.

Usually, film scanners are more expensive and time consuming to set up and use than flatbed scanners. Colour correction is usually needed because in general the scanner will not be calibrated for all film types. An alternative is to always use the same – often expensive – film type.

Sheet-feed scanners

Sheet-feed scanners work in a similar way to fax machines. 2D images are fed between a pair of rollers and pass underneath a scanning head. In general, these are used to convert printed text into electronic files by running the scanned text through OCR software.

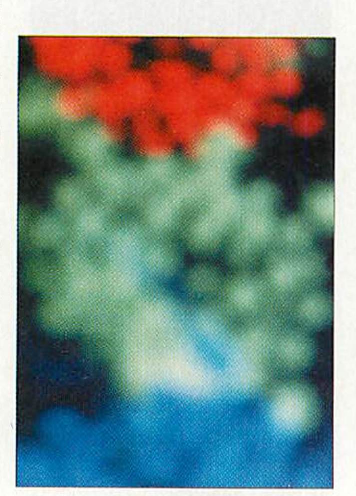
Of course, you can use sheet-feed scanners for image scanning, but their use is limited. They have similar circuitry and components as flatbed scanners, except the images are rolled past the scanning head rather than vice versa.

Sheet-feed scanners are cheaper than flatbed scanners, take up less space and are good for OCR scanning. However, the scanned picture must fit between the rollers, so they are no good for scanning large images, which could be done on a flatbed scanner by scanning in sections.

The material the image is on must be flexible, as photographs on glossy paper sometimes slip and mess up your image positioning, and if you get the slightest bit of dust in the roller mechanism then you can scratch your original images.



Optical Character Recognition software (OCR) takes scanned images of text on the page, and reads the characters into a text file, for editing in a word processor. The latest OCR packages can even read style information like bold and italics, and can decide if a font is serif (like Trinity) or sans serif (like Homerton).



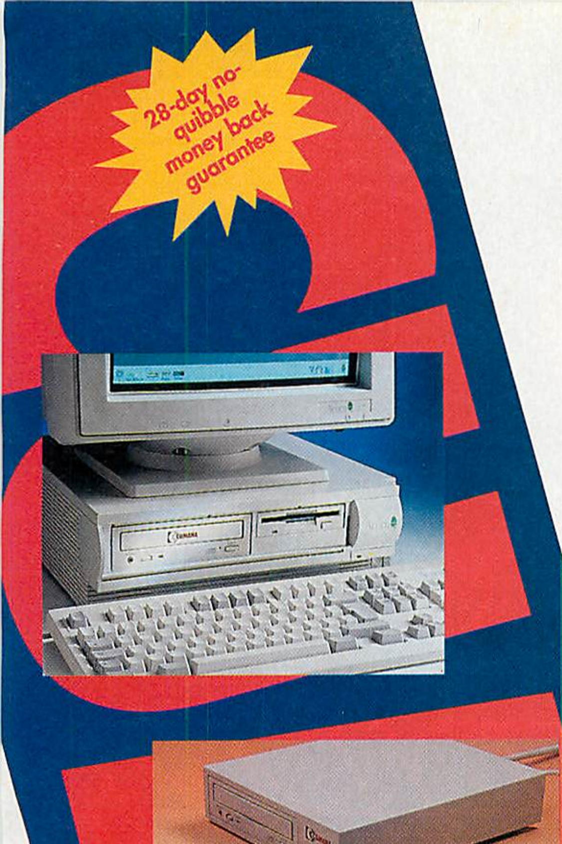
Other scanner types

Drum scanners are at the high end of scanning and are operated by a skilled person. They need pampering with things like climate-controlled rooms and cost tens of thousands of pounds, but are the sort of scanners that are available through repro houses. The image to be scanned is taped onto a cylindrical plexiglass drum, and the drum revolves and a lamp within the drum focuses a minute spot of light onto the original. A lens scanning the horizontal axis of the drum focuses the light through three colour separation filters – red, green and blue. Each filter is attached to a photomultiplier which converts the light into electrical pulses; this method gives the highest possible dynamic range in an image. Some drum scanners are so powerful they can reveal information that the photographer would be unable to see with the naked eye. They are also fast.

Overhead scanners have a scanner head mounted on a small tower. The scanning head, along with a mechanical light source, sweeps over a base board where the image lies face up. These can handle low profile 3D objects as well as 2D images. The scan heads consist of the same linear CCDs used in flatbed scanners and, as before, colour images require three passes of the sensor head. Some overhead scanners combine the features of a digital camera, a film scanner and a flat bed scanner. A high quality but expensive overhead scanner may be available for the Archimedes soon.

Hand held scanners are low- to medium-level scanners, useful for people who want to use small images in low-end DTP work. They look like vacuum cleaner attachments, with 120cm-wide heads containing a daylight-balanced light source and mirrors to reflect the image to a CCD sensor. You use them by dragging the scanner across the image, and a roller inside the head measures the motion across the image and tells the scanner when to sample new lines.

Next month I will be take a look at the range of colour scanners available for the Archimedes. AU





Cumana CD-ROM for all Acorn users

● Double-speed, Kodak Photo CD compatible ●

Risc PC .... the fastest computer from Acorn

Indigo - OPEN THE COMPUTER 'AND IN-IT-GOES'

ProArtisan 2CD includes a FREE Photo CD disc

- Easy to fit using the computer's IDE interface
- Built-in audio mixer
- ProArtisan 2CD-ROM Edition, Acorn PhotoView and audio player software
- Stereo headphones

£249

Risc PC, A5000, A4000, A3020, A3010, A3000, A540, A400, A300 and A4

Bravo - WILL HAVE YOU CHEERING

- Rugged case doubles as a monitor stand
- Built-in audio mixer
- Cumana Photo Album Photo CD, Acorn PhotoView and audio player software
- Stereo headphones



Note: *Bravo drives for A3000, A540, A400 and A300 are supplied with single width expansion card.*

£299

Each drive supplied with CD software vouchers worth up to £200

Risc PC, A5000, A4000, A3020, A3010 and A4

Oscar - A HARD ACT TO FOLLOW

- Connects in seconds to the printer port
- Spare connector for printer, dongles and/or a second CD-ROM drive
- Cumana Photo Album Photo CD, Acorn PhotoView and audio player software
- Stereo headphones

£249



I would like to order an ____________ drive at £ ____________ including delivery & vat

TICK ONE
- ☐ I enclose a cheque for £ ____________ *(payable to Cumana Ltd.)*
- ☐ Please debit my MasterCard/VISA credit card *(please delete)*

No ☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐

Expiry date ____________

Signature ____________

My Acorn computer is a *(state model)* ____________

☐ Please rush me my personal copy of the new Cumana CD-ROM Portfolio

☐ Please tick this box if you wish to receive future product information from Cumana

Name ____________

Address ____________

Postcode ____________

Telephone No. ____________

Cumana Ltd, Pines Trading Estate, Broad Street, Guildford, Surrey GU3 3BH. Tel: 0483 503121 Fax: 0483 451371



Acorn Hardware Specification Compliant

These special offers are also available through Acorn dealers and are subject to availability. Offer closes 31.12.94

GAME SHOW

Happy Christmas! I'm writing this in November and I admit it's hard to get all Christmassy all of a sudden, what with getting the Acorn World Show behind me and still recovering from that incident involving water that I'm not allowed to mention anymore! OK, so my local Woolworths looks like a cross between Santa's grotto and a natural disaster from *Sim City 2000*, but it hasn't snowed yet, and I'm just not in the mood for turkey.

Still if you can't quite make up your mind as to which game you'd like to a) Treat another to and, b) Treat yourself to this Christmas, then don't look to me for goodness sake! What with all these rather splendid games suddenly flooding the market it really is a hard choice.

Wandering around the Acorn World Show it was very encouraging to see some giant leaps in game developments that are hitting the shelves. Between *Starfighter 3000*, *FTT* and *Arcturus*, it was hard to remember the not-too-distant past when the likes of *RoboCod* and *Zool* were the coolest games to be seen playing on your Acorn.

As I said, the market is accelerating at a great rate and who knows, maybe even Acorn will start to take games more seriously and back those plucky (independent) companies who are producing the Christmas batch of goodies. This is an issue that I would like to expand on and indeed will in the coming months, after I have gathered some interesting statistics and maybe the odd juicy quote for a certain party to chew on.

I spent a lot of time in the Games Area during the Acorn World show and, boy, were my illusions shattered. I thought I was pretty good at games and could beat the best of them, but after watching a five-year-old climb up to the joystick, run a game no more than a few hours out of development, then get further than I have ever got, I was, as they say, gutted. Still, at least it means I have a learned audience to preach to, and it proves that the Acorn market can generate games players just as mean as those on consoles and PCs.



Starfighter 3000: just one of the excellent new games released at the show.

Walking around the show, I was also stopped and asked if I would review people's games. The answer is most definitely *yes*. If the game is good, original and stands up to a full testing, then it goes in the magazine, be it PD, Shareware, commercial or even none of the above. I'm in the business of playing games, regardless of where they come from.

One such example is a new world war flying simulation that sounds just great, with the highest level of detail achieved yet in a game of this type, as well as accurate mapping and historically correct placements.

Space prevents me from delving deeper but hopefully the finished review should make next month's column. Also destined for review is a Stock Car racing game using an overhead view. Although this perhaps doesn't sound too original, I'm assured it does have everything necessary to be a winner. We'll just have to wait and see.

Waiting for me on the doorstep upon my return from the show were *Floppy* from Soft Rock and *Desktop Hacker 1.04* from Doggysoft. Both these will be covered next month and I can say now that *Hacker 1.04* is excellent – even better than previous versions – and it has been helping me through some rather difficult moments in the games featured in these pages.

'Featured' is about the best word for this month's pages, as with so many games out I really didn't have the space to do the business on each and every one. However, in the interests of Santa and his sack I've given them all a mention and a quick review. More detailed discoveries will be reported next month.

I must say that the stars of the show have to be Krisalis for such stunningly low prices and *Sim City 2000*, Powerslave for *Wolfenstein*, a masterpiece in itself, TBA for the very very impressive *FTT*, Oregan for *Arcturus* with all its trendy Gourard shading and finally *Starfighter 3000* from Fednet.

Aside from sending out an extra from the Omega Man – for those of you who didn't make the show, Fednet had a strangly dressed monk-type figure wandering around, bare foot, clutching a banner declaring 'The end of the world is nigh' – *Starfighter 3000* managed to cause the greatest stir in the Games room. *Starfighter* is a truly brilliant game and I have not managed to leave it alone since receiving my full copy. Nice one, Fednet.

With regards to my plea for games reviewers, I am making impressive progress through all the entries and according to schedule will make an announcement pretty soon. Please, I'm still getting the odd entry, even now. Stop! You are too late, honest. Pity the poor postman, if nothing else...

Steve Atherton



ARCTURUS

Supplier: Oregan Software Developments
Tel: 021-353 6044
Price: £24.95

First impressions always matter and it would appear all those serious art packages that Oregan produces have finally been applied to some lovely cover art. Many a time have I seen a great game at an even greater price packaged like some PD offering and standing little chance of gaining respect on the shelves.

So just what is *Arcturus*? Well, put simply you must guide a gyroscope around various worlds, collecting diamonds as you go. There are countless diamonds and 104 different worlds to conquer. Of course, that would be simple wouldn't it? Walk in the park, mate.

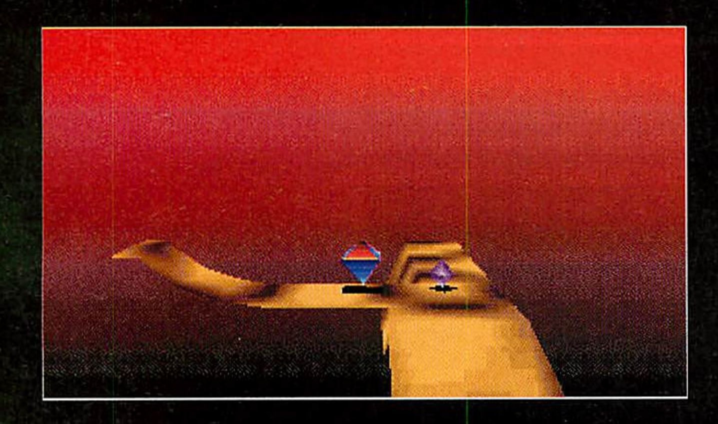
So our kind developer Thomas Alber (who is German I presume, hence the inclusion of obscure words like 'Oberflachenbeschaffenheit' in the game instructions) has included loads of tasks for you to perform. These tasks are puzzles of sorts which you need to think about before tackling, as in quite a few cases there may only be one way to get through. All the diamonds must be collected from the levels if you are to make it to the next and much harder offering.

There are surface conditions to take into account too, each affecting the way the gyro moves and handles. There is ice, which can reduce or take away your grip altogether, and sand, which has the opposite effect to your little spinning chappie. Also littered around the play area are bonuses, power-ups and even enemies that can totally wipe you off the board.

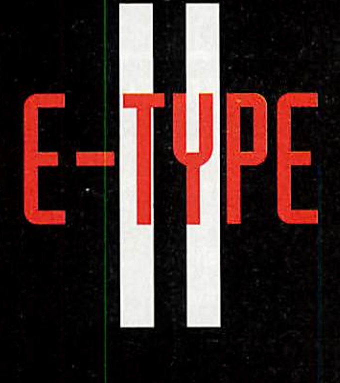
The game uses Gourard shaded vector landscapes which really do add that little *je ne sais quoi*, and make a change to the rather boring chequered red and white chess boards that these game almost always use.

Although *Arcturus* is not exactly original, the presentation, speed and playability make this a really superb game. And it looks so damn pretty...

Steve Atherton



E-TYPE II



Supplier: Fourth Dimension
Tel: (01142) 700661
Price: £34.95

E-Type 2 comes in a black video-type plastic box so it must be... The Fourth Dimension! Yep, things don't change when it comes to 4D's packaging, but fortunately for us the games inside are as varied as they come.

This latest offering is Risc PC-compatible and, joy of joys, is a *two*-player racing game. There is nothing quite like racing around a track against your best friend, and *E-Type 2* goes one step beyond the average *Outrun* by allowing you to shoot and bomb your opponent in an attempt to stamp outy any sort of challenge. There are even oil slicks and water traps to add to the fun.

Driving the car involves some skill too, with rev counters and oil gauges to attend to, as well as the speed limits within an area. Stray too far from the speed restrictions and you pay the price in the form of time penalties. If that wasn't enough, if you become a bit too keen on the start line a false start can lead to yet another penalty, with you being restrained as the other car shoots away.

Features don't limit you to just a two-player option as this would be a bit boring – especially if you're not very popular – so The Fourth Dimen-sion has also included a single player option with you racing a computer of various skill levels. This is ideal for practice, but is great fun in its own right.

Last but not least is the circuit track editor which lets you construct your own twists and turns. Although this is not an original format it is a highly addictive game to play – especially for two.

Steve Atherton





Supplier: Krisalis Software
Tel: (0709) 372290
Price: £39.99

SIMCITY 2000

I have a Mac you know, a Power Macintosh to be precise, and between *Quark 3.3.1* sessions I like to play the odd game or two.

One game I like to play a lot, almost to the point when *Quark* designs become the break, is *Sim City 2000*. *Sim City 2000* is not a game, more a simulation, and should at least win the approval of the serious Acorn users, especially when you consider the fact that it can only run on a Risc PC or an A5000.

You can always tell a simulation because the manual is 'published' and usually contains heavy quotes and an introduction that makes Science Fiction novels look tame.

So where do I begin? Well, you are Mayor and must manage a city. That's it. You must build anything from sewage plants right through to the latest nuclear facilities and try to keep the city from going bankrupt. How do you make money? By encouraging people to settle, giving them a place of work then taxing them to kingdom come. Failing that, you can promote trade with your neighbours for mutual benefit (before trading them out of the marketplace, of course).

There are a hundred and one ways to build a city and millions of variants that could affect the growth of your creation. One such million to one shot that I have yet to see affect the cosy village where I live is the invasion of a metallic monster that destroys all in its path. Other disasters, both natural and not so natural, include meltdowns, fires, floods, tornados and others too horrible to mention.

To keep you up to date there is a city newspaper that informs you of the march of time and also the peoples' feelings. Like all good journalistic tomes, you should take it all with pinch of salt. After all, when was the last time you really believed everything you read about the government?

On the other hand, if you were to raise taxes by as much as I did then the riots that follow and the inadequate police force sent out to repel borders are just what you deserve.

You can have fun creating the cities of your dreams and they start at a specific date in time, allowing you to take advantage of the technological break-throughs made so far.

You can also take advantage of the rather generous loan schemes available and really splash out on some desirable property and perhaps the odd spaceport or solar energy plant to service your needs.

Of course, don't forget the sewage pipes, the water and electricity supplies, as well as the roads, rail links and subways.

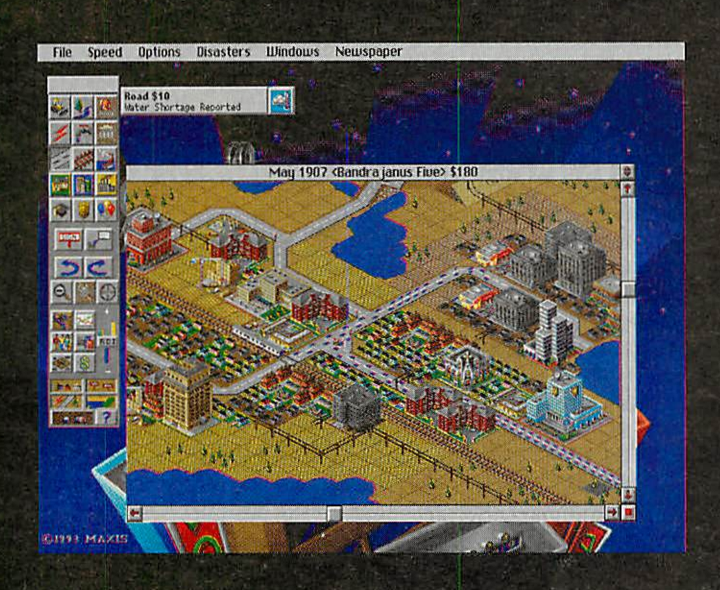
I think you can see just how addictive this sort of game can be. You just can't resist the temptation to see the passing of time, and the passing of debt, as the game unfolds before your eyes.

You can control the time scale too so that it takes minutes, or just seconds, to pass the decades. Either way, just make sure you listen to the people and watch the colour of the settlements as they flourish or turn to ruin.

You then decide whether to flatten and rebuild or just improve the surroundings? Ah well, decisions decisions.

If you think that games are all shoot and kill, maybe you have been neglecting the market. This game is a must, even if it's just for a good read with the manual before bed time. It's probably the beat excuse for buying a Risc PC this side of the PC Card.

Steve Atherton



SIMON THE SORCERER

Supplier: Gamesware
Tel: (0703) 456523
Price: £39.99



It's here! Hide the Amigas! A year later than planned, *Simon the Sorcerer* has finally arrived! Not only that, but news is coming in from various sources about the follow up, *Simon 2*! Ye Gods, what next? I just hope a different programming team is being used, as I heard some evil rumours that Gamesware locked them in their room until it was all finished...

Digs aside, *Simon* is yet another classic to emerge from the Amiga stable and the first thing that hits you is the box artwork. It's a top quality deep gloss box that looks like it contains a really classy game.

Further adventures in packaging uncover nine discs – yes, nine – for you to install on your hard disc, or swap around in your floppy drive.

The game is of the click and explore genre, much the same as the 16-bit machines have been enjoying for ages. You move the pointer around the area to highlight things of interest, then by choosing some action words at the bottom of the screen you can direct Simon through all the puzzles ahead.

The whole presentation is very slick and the animation quality is high enough to stand up to the comparisons with Disney. The whole game is very tongue-in-cheek and the instructions are pretty hard going if you lack a sense of humour so, as with the game, take nothing at face value and accept that the programmer was a smart arse with a warped sense of reality.



The plot is simple enough though. You must rescue Calypso the wizard who has the power to return you to your own world. That's about all the help you are given, though the brilliantly simple gameplay and hints make the exploration of the rest of the game quite easy going. I'll get a full report to you all next month...

Steve Atherton

FTT



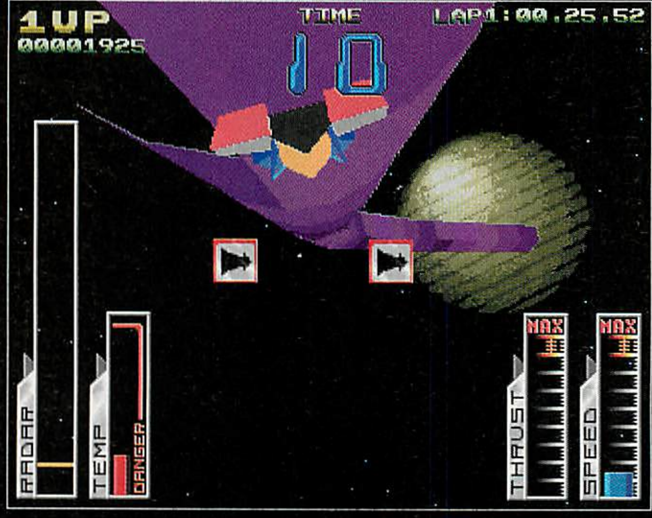
Supplier: TBA Software
Tel: (01761) 470003
Price: £24.99

Well I've got to say it, *FTT* was the star of the Acorn World show. OK, maybe joint star with *Wolfenstein 3D*, *Starfighter 3000* and *Simon the Sorcerer*, but you catch my drift.

Whenever anyone loaded it up, a crowd materialised out of thin air round the monitors on the TBA stand. Why? This game's a beauty.

Not only does it look slick and playable but it's also er... slick and playable. Using a customised and highly-developed software engine, *FTT* manages to present a game that looks like, dare I say it, something from the PC or Famicom scene.

To be honest, I've never seen a game quite like this, and this alone makes *FTT* stand out. There's oodles of intro detail and even a story to justify what's going on.



So just what is going on? Well, the game is set in the future where you must represent a team by racing around a course in a chosen craft, much to the amusement of the watching millions who have all been converted to the sport by the larger-than-life commentators Bob and Ted.

Each team has a car for you to drive and each car has its own particular traits to deal with – some might be very fast but not so clever on turning, others might be quite the opposite.

Once you've picked your team it's time to race. You control your car using left, right, throttle, brake and boost, which totally puts you in the hot seat. To stay on the track you must always take the inside line and use the power of gravity (yes, OK, it's set in space so there's no gravity, but it's only a game, so quit moaning).

There are ten circuits, five planets and ten racing teams to play with, as well as some stunning rendered effects. The feeling of movement as you're hurtling round a tubular track in outer space is almost too realistic – if you suffer from space sickness, you have been warned.

FTT is just the first new game to use TBA's new graphics engine. I can't wait for the rest.

Steve Atherton



DUNE II™

One of the biggest games ever
now available on the Acorn

BATTLE FOR ARRAKIS

Speech - Artificial intelligenc - 9 mb compressed graphics - 30 massive battle zones - Based on the cult book by Frank Herbert - Over 20mb of source material squeezed onto 7 floppies.



Westwood
STUDIOS



Runs from floppy or HD on RISC OS 2/3 with 2mb RAM.
Available at £34.99 direct from ECLIPSE:-
Unit 1, The Shopwhyke Centre, Shopwhyke Road, Chichester PO20 6GD
Tel: (01243) 531194 Fax: (01243) 531196
Also available from all good stockists

FLASHBACK
THE DEVELOPMENT

In last month's episode of Flashback: The diary, our hero Dave Lawrence had just sent the first Archimedes version of the game to US Gold. Now, read on...

My previous work plodding through the source code paid off now, as I was able to code up a large number of the game instructions in quite a short time. Inventory management, lives and object activation all slotted in quite nicely, although with only Conrad operating it was impossible to tell if anything was working.

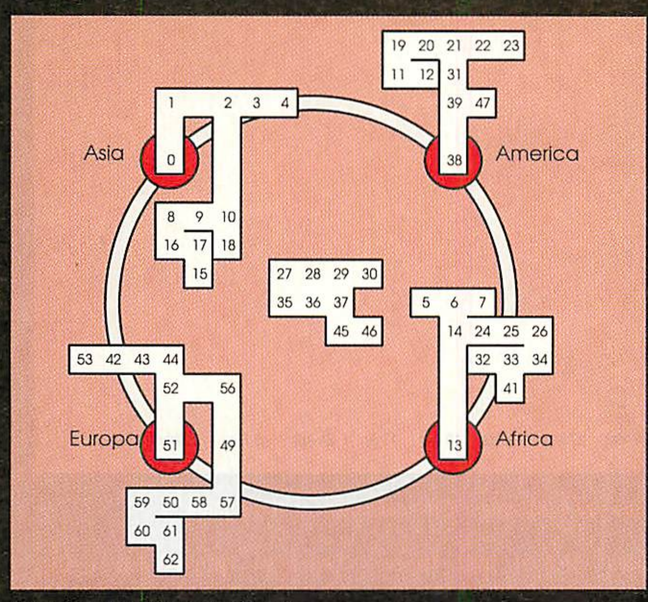
I loaded a sprite file of monsters for the first time on 11 March and was quite amazed when the Junkies – what Delphine from US Gold calls the baddies on level 1 – seemed to work. By coding the random number instruction, they even started looking about. I implemented the 'look for Conrad' functions and all the monsters started wandering about.

This was a very satisfying point in the game; knowing that the animation and sprite management routines which had taken many hours of development worked on all the monsters and not just Conrad. Also, the game interpreter was performing very well.

Animated objects

The next day (12 March) I moved on to the other animated objects; lifts, doors, people, mines, floating orbs, trundler robots and so on. They're stored completely differently from the other sprites and it took two days to get them fully operational.

At this point the game was visually quite recognisable as *Flashback*. This was also the first time Conrad's gun appeared, although it couldn't yet be fired. Unfortunately, *visually* recognisable is a long way from playably recognisable – them there objects needed to interact with each other.



An early map of the second level.

At this point (17 March) I had found a number of problems with the Amiga 68000 code, so I decided to try and make use of the PC code, despite not knowing a thing about 8086 assembly language. This, together with the inherent complexity of the collision detection system, made the next few days (sorry, nights) incredibly vexing. Again, I was very glad I'd spent the time to work through the code 'by hand' (making notes) at the beginning.

By the end of 19 March though, mines, floor sensors and dirt all reacted to Conrad. The second stage of interaction involved message passing. This was difficult to test as all elements of the code had to be written at once. One by one things slotted into place and with the addition of a few more instructions, lifts, doors, guns, and so on started working.

Work was progressing very rapidly now: (22 March) I added the 'held' icon to the top corner of the screen; coded the inventory selection screen; displayed an icon when Conrad stood next to an object; (24 March) got 'pick up' to work; extracted the text font and labelled the icons; got Conrad to throw things; handled his lives properly; incorporated the dialogues with the other game characters and fixed numerous bugs.

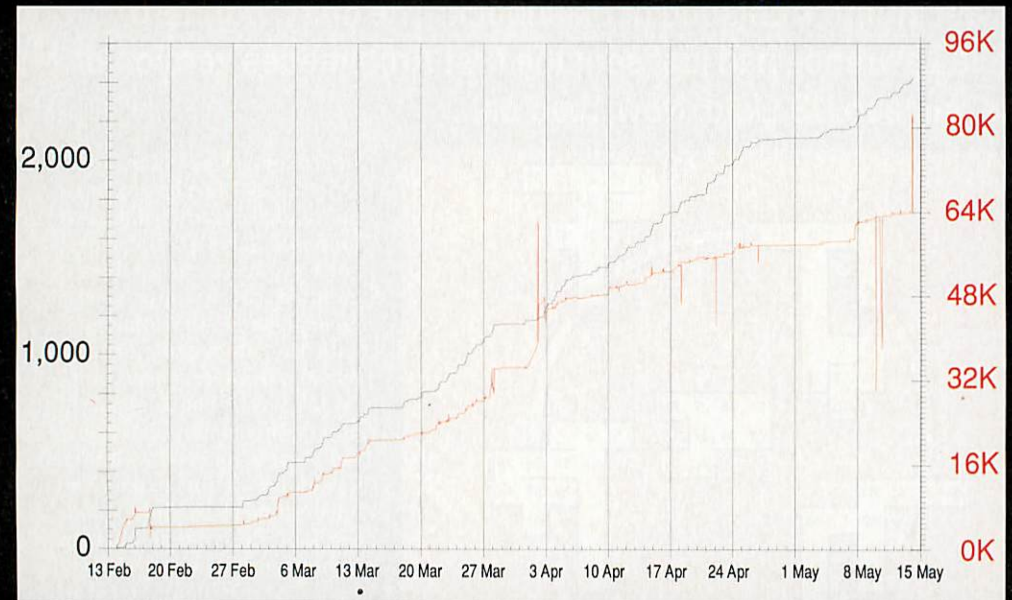
(26 March) The final part of object interaction, scanning for objects, proved to be the key point of the game. The hardest part was understanding how the system worked, implementing was relatively easy. At 2:50am, Conrad killed his first monster. The next day (27 March) most of level two seemed to work.

A lot of debugging later and *finally* Conrad's gun worked, closely followed by the monster's guns and suddenly the game was very difficult to test. However, despite a few bugs and a couple of esoteric instructions, all the game logic seemed to work.

Far from the madding code

(1 April) I'd worked out how to display the polygon-based cinematic animation sequences, it simply remained to convert the BASIC program to ARM code. Managing the objects wasn't too bad, but plotting rotated ellipses was interesting. Incorporating the code into the game was painless, although memory problems meant cunning cacheing rou-





A graph showing version number and source code size against time in the development of the game.

tines had to be written.

The next few days (4 – 7 April) were spent speeding up the sprite plotting and generally tidying and debugging what I'd done so far; my 'to do' list needed to be cut down to size.

(8 April) The sound effects now had to be added in. Due to 1Mb memory constraints these all had to be squashed, decompressed and played 'on the fly'. A week later I came back to this code and implemented the stereo positioning and volume adjustment.

In the mean time there was a lot of bug chasing to be done. In general, the sound was working, but lifts were subtly wrong; some doors were noisy; mines made an awful racket; some of the samples clicked and there were problems between levels.

(11 April) Back to the game itself and I implemented the SAVE pillars. I also needed to pay careful attention to memory so the game would work on a 1Mb A3010.

The next week was spent solidly (i.e. 7 days, 6pm – 4am) tracking bugs, features and smoothing out the rough edges and generally playing the game as much as I could. The title page also began to take shape.

Music, bugs and features

(17 April) This was the part I'd been dreading most – playing Tracker tunes. There were two sorts: jingles – heard during the game – and true Trackers – played during the cine sequences. I started with the jingles which weren't too bad and put off the Trackers until 5 May.

The first official bug report from USG arrived on 18 April; of the 45 points, over half were features of the original game. I fixed most of the rest and the revised list appeared two days later with only 11 things left. I thought the end might be in sight then (in fact I had about five weeks more to do).

There were sound effects to edit, level passwords to include, game options to sort out, holes in cine frames to fix, colours to tweak, saving to disc, copy protection, a coverdisc demo, the end sequence and more obscure bugs and features to track down.

All this took up until 5 May when I could postpone Trackers no more. Debugging voice generators is notoriously tricky, but in fact the play routine was not as bad as I had expected and by the end of the third day, they seemed to be pretty robust. I had more problems incorporating the music files into the cunning cacheing system I'd written to handle the cine files.

The 8th and 9th were *very* long days, and I had hoped they'd be the last. Both were spent tracking down some annoying problems and generally 'finishing' off. Even at this stage I wasn't sure the game would work fully on a 1Mb machine, or even fit onto floppy discs and then work from them.

In the end I pulled my one and only all-nighter to sort it all out. 6:30am on 10 May was a momentous moment as I assembled the code for the 2,315th time. Imagine my reaction when I gave it one final test and... it crashed. I realised what I'd done though, and sorted it out in minutes before posting V1.0 to USG.

After the storm

There were a few minor bugs from USG to fix, but the biggest task was the demo mode. USG didn't mind that I hadn't implemented it, but I would have been annoyed later if I hadn't bothered.

This took a couple of days, while the game went through final testing at USG. I finished (again) on 13 May, But then – 22 May: phone call from Stuart. There is a strange green dot in some rooms of level one; it turns out to be a refugee from the green gloopy stuff dripping from the pipes.

8 June: the demo doesn't work on RISC OS 2.

14 June: crammed everything onto six low density discs.

16 June: USG managed to play the whole game through from the beginning, only to find the planet blows up twice; an easy fix and then, for real this time, the game was finished. AU

£24.95 EACH ANY TWO GAMES FOR £39.95 ALL THREE ONLY £49.95

Sally and Wally

Arcturus

Magnetoids

oregan

Arcturus requires RISC OS 3 and 2Mb, Sally and Wally also requires 2Mb. All have hard disc install options. Full Risc PC compatibility assured.

Oregan Software Developments
36 Grosvenor Avenue : Streetly : Sutton Coldfield : B74 3PE
Telephone : 0121 353 6044

Virgo
software

Size isn't everything...

...unless you're ⅛ inch tall!

In SMALL, the BIG game from Virgo software, that's precisely what you are, condemned to wander the labyrinthine world of your own mind with no hope of escape (well, *almost*).

Faced with relentless *arachnids*, *hermits* and *keepers*, you must fight your way through a seemingly endless web of ever more complex mazes before your time — or your energy — runs out.

With stunning colour graphics and fiendish puzzles to test your ingenuity, SMALL has to be the hottest game this year. But don't take our word for it — try it for yourself, and see how you measure up to the challenge!

"...graphically beautiful, unusual and infuriating. On both programming and gameplay, Small is a winner."
Acorn Computing

SMALL

How will you measure up?

VISA

Small is £24.95 inc. VAT

Virgo Software, P.O. Box 44, Stockport, Cheshire SK7 4QY. Tel: 061-456 0009

In brief

Under scrutiny this month:
Keystroke • Ultilabel • BJC-4000

Keystroke 3

Product: Keystroke 3
Supplier: Quantum Software
Tel: (01506) 411162
Price: £29.95 inc VAT

Pros: New 'manual' operation • Library of functions • Works with selected text in *Impression*

Cons: Can be fiddly to set up • No interactive help

Quantum Software's card carries the slogan 'Creators of innovative software', which seems an accurate way to describe Quantum's program *Keystroke*. It is a utility designed to make complicated desktop events happen at the press of a key or two. You can define keystrokes to mount and open a window for a floppy, load up applications or perform specialised tasks such as changing the width of a line in *Draw*.

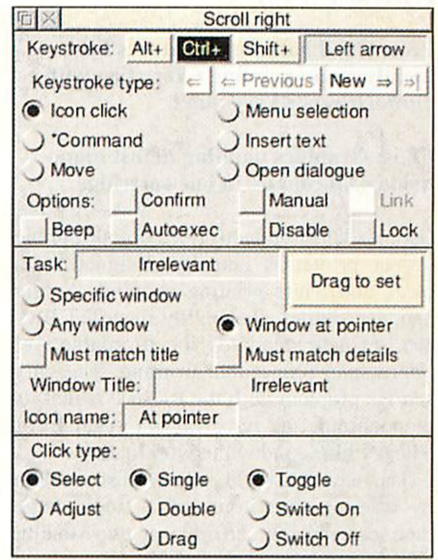
Over enthusiastic users who jump at the chance to define Ctrl-X as 'Delete file' fall foul of the fact that *Keystroke* passes all key presses on to other tasks, and find their *Impression* frames mysteriously vanishing. By and large, however, the program is extremely useful.

Keystroke is now on version 3.06. It works on all RISC OS computers, from a RISC OS 2 A310 to a Risc PC, in itself an achievement to be proud of. The basic operation of *Keystroke* involves choosing a key combination which does not clash with other operations and then negotiate a complicated dialogue box to set the action for the key combination.

To be fair, the dialogue box looks a lot more daunting than it is; support for interactive help would have been useful here. Once you get the hang of it, setting up *Keystroke* becomes easy, and there is a good set of examples at the back of the manual. It's not as simple as running through the sequence on screen and expecting *Keystroke* to 'copy' what you do as *MacroMaker* on the Mac does, but it does give a powerful and precise interface to WIMP events.

New to version 3 is a 'manual' mode in which *Keystroke* actually moves the pointer and pretends to perform all the necessary WIMP events; this is to allow it to be used with some non-WIMP-compliant applications. Almost as a side effect of this, there is a 'tutorial' mode which slows *Keystroke*'s operation down so that you can watch it going through its sequence, which would be useful for presentations and demonstrations.

The latest version also enables operations to be performed on selected areas of text in *Impression*, communicating using the *Impulse* language, though because of the way that *Impression* works, you must enter any *Impression* keystrokes in manual mode for them to work.



The *Keystroke* dialogue box – daunting but powerful.

Keystroke keeps improving, and Quantum is very good at listening to customers' requests. Nearly everyone finds themselves performing some simple operations which require tedious searching through menu structures, and it is here that *Keystroke* really comes into its own.

David Matthewman

Ultilabel

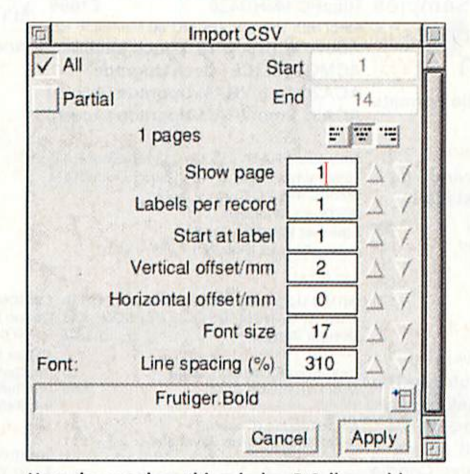
Product: Ultilabel
Supplier: Le Computer
Tel: (01245) 362225
Fax: (01245) 362048
Price: £58.69 inc VAT

Pros: Imports CSV files • Comes with Avery™ label formats • Can mix graphics and text on labels

Cons: Only one graphic per label • Poor text formatting • Expensive • No interactive help

Ultilabel is a handy little utility for generating business cards, labels and the like. Each label can contain a *Draw* file and text from a CSV file. The text can be formatted – as a block – and mixed with the *Draw* file. Separate lines of text in the CSV file print on consecutive labels, commas separate lines of text within a label.

Ultilabel allows you to define label layouts – some for the Avery™ label set are included – and you can start printing midway through the sheet, which means that you can use half-printed sets of labels.



How do you close this window? Call me old-fashioned, but I prefer windows that I can remove from my screen *without* taking the text with them, as this one does if you 'Cancel'.

That's pretty much it. Not much for your £58.69, really, when you consider that £50 more will get you *Impression Style* which with a little ingenuity does all this and much more. Not only that, but *Draw* and the Freeware *DrawPlus* are almost as useful for label creation. True, they lack CSV file import, but are more flexible in other ways. In fact, the *Ultilabel* manual comes close to acknowledging this twice, once when it suggests using *Draw* to import sprites which *Ultilabel* cannot handle – why not? – and once again when it recommends fine tuning the positioning of the *Draw* file logo in *Draw*.

Ultilabel claims to be 'the professional's choice' which is a dangerous claim to live up to. I can't believe that most professional Acorn users are so undiscriminating as to choose this package. Among its faults are:

- No saving of text with labels, it must be saved in a separate CSV file.
- Only one *Draw* file per label.
- The text can only be in one style.

Ultilabel does the minimum amount of work for a label printer, but no more.

David Matthewman

Canon BJC-4000

Product: Canon BJC-4000 with Computer Concepts *TurboDriver*
Supplier: Computer Concepts
Tel: (01442) 63933
Fax: (01442) 231632
E-mail: info@cconcepts.co.uk
Price: £369 + VAT

Pros: Good balance of features for mainly mono printing • Very fast with *TurboDrivers* • Very quiet

Cons: Graphics banding in fast mono mode • All colours in one cartridge



The new BJC-4000 from Canon is good for monochrome work with occasional colour.

Canon's latest budget-priced colour bubble ink-jet printer is actually designed with black and white printing in mind. A year ago, its sibling, the highly-regarded BJC-600, set new standards for affordable, yet impressive, four-colour printing. The only serious problem with the BJC-600 is that its monochrome ink reservoir is too small for a heavy black and white workload.

The new BJC-4000 solves this problem by offering the choice of a single large monochrome ink cartridge or two smaller and separately replaceable colour and mono cartridges. The single large mono cartridge has several times the capacity of the BJC-600's relatively tiny version, but even the smaller BJC-4000 mono cartridge, is visibly larger than that of the BJC-600.

In fast mono mode using the large mono cartridge, the BJC-4000 is very quick. Using *TurboDrivers* printing from *Impression*, a textual output of about 2.5 pages per minute is possible, more than double the speed of either a monochrome-only BJ-200 or the BJC-600. In fact, even printing from a Risc PC, the printer sometimes has to wait for the computer. In this mode the full-width 128-nozzle print head is used for each pass. This is fine for text, but banding is evident on graphics. Speed can be sacrificed to successfully eliminate the banding; even then BJC-4000 is still impressively quick.

I don't think there is much to choose between the colour reproduction of the BJC-4000 and 600 for most work, though CC suggests the 600 has the edge for more critical work. Markedly better results can be obtained by printing on specially coated paper which costs about £22 for 250 sheets. A disadvantage is that – unlike the 600 – if one colour runs out all three must be replaced together in the one cartridge, so the 600 will work out more economical for heavy duty cycles in colour. Good news is that the inks have been improved so blacks are slightly darker, even on ordinary paper, and all the inks used now are water resistant.

Adapted *TurboDriver* software from CC means images up to 24-bit colour depths can be printed. Normal print resolution is 360dpi, with a 360 by 720 mono mode. Mechanically, the BJC-4000 continues the Canon reputation of being extremely quiet. It's also marginally more compact than the BJC-600, being taller but less deep.

I use my 600 for occasional colour work and the rest of the time it's used for word processing. If I had the choice today, I'd probably go for a 4000. If colour is your main application for the printer, the 600 is still the better bet. Whatever your choice might be, both alternatives are great buys.

Ian Burley

Letters

Low profile

This is essentially a reply to your Viewpoint in the November issue, where you commented on the lack of profile of the Acorn range with the 'slamming in the video' quip. Well, I didn't have a video to hand, but I have seen an Acorn machine on TV, not once, but twice.

The first time was on the Saturday morning children's programme *Live and Kicking*. They were doing a feature on morphing and it was being demonstrated to one of the presenters, and as the process was being explained I suddenly noticed that the monitor looked to be sitting on a two-slice Risc PC.

Peering closer there also looked to be a green acorn on the box. Moments later he even name-checked Acorn by saying that although he had a system costing £2000-plus, the program could be run on any of the Acorn range.



Live and Kicking **shows that it is indeed live and kicking by inviting Acorn's Alastair France (that's him on the left) to demonstrate the Risc PC's morphing prowess. Don't they look** ***happy*****!**

The second appearance of an Acorn on television was on another children's programme, in this case *Take Two* on 24 October. They were doing a behind-the-scenes feature on the Children's BBC office, and hey presto, someone was using what looked suspiciously like an A5000, and even showed how it was used to compose programme listings for the coming week.

If these two TV appearances weren't enough, *New Scientist* also covered the story about the Royal Academy of Music adopting *Sibelius 7*, although they did manage to call the Risc PC a PC at one point.

Just though these might be of interest, and may indicate that there's hope yet for Acorn's public profile.

Matt Bellamy
Cheltenham

Definitely of interest – see Viewpoint (MM)

One-bit town

As a keen ARM programmer I often come across the limitations of the constants that can be inserted into assembly code. Being a 32-bit machine, it should be possible to store any number between 0 and 2^{32}, but since the instruction itself occupies some of the bits, Acorn has had to devise a method to enable access to most of the numbers. As a consequence the larger the number is, the more commands are required to use this number.

For anyone not following my letter so far, the point is that the 32 bits currently available for storing numbers require techniques to enable me to work with them. This led me on to thinking about 64-bit machines, and the actual hardware layout such as number of tracks and the way the MEMC and other chips work.

This led me to thinking that maybe a future 64-bit computer could actually work at the *bits* level, rather than bytes. Surely a byte is a only a sample length (of eight bits) to enable numbers between 0 and 255 to be stored and read. This leads me to suggest that memory could be mapped simply as a long stream of bits.

To read a byte of memory location 112 (&70), one usually uses ?112, but the new system would be accessed in the following way: [896-8], as in PRINT [896-8]. Here the syntax is that the first number is the address in bits (112 x 8 = 896), and the second is the sample size (eight bits).

Similarly to read a word at the same location, one usually uses !112, which in the new system becomes [896-32]. Notice that the new system still has ties to the old system in that the addresses can be thought of as lying at every eight bits (hence 112 x 8), but this would be up to the programmer to decide since the memory is now only a series of bits.

But why change what we already have? It does the same job and it works. Well, currently my main hassle is that of screen manipulation in games, the main obstacle being that words (or four bytes) can only be stored at word-aligned addresses. I suspect this has something to do with the limitations of memory access, but I'm not sure. Anyway, this means that shifts have to be performed between a string of registers to manipulate the screen or sprite data.

With a bit-based system this would not happen. It should be possible to store the data anywhere on the screen without limitation, even to the point of storing at any bit. In a four-bits-per-pixel mode, the essence of a machine code scroll to the left would be:

```
LDMIA R0!,{R2-R11}
STMIA R1!,{R2-R11}
```

with R1 pointing to top of screen, and R0 to top of screen+4.

This brings me onto another possibility. It may be useful to specify the amount of bits a register loads at once. So:

```
LDR 64 R0,[R1]
```

would load 64 bits from the address pointed to by R1 into R0. Other possibilities then become:

```
LDR 32 R0,[R1]   a word
LDR 8  R0,[R1]   a byte
LDR 1  R0,[R1]   a bit
```

The number of bits to load or store could also be specified by a register:

```
LDR R7 R0,[R1]
```

The more I think about the new possibilities with this system, the more I can't help wondering about the down sides. I'm sure there are many:

Cost: The main ones I can see so far are mainly to do with the cost of producing these new chips – the 64-bit proces-



Write to: Acorn User, IDG Media, Media House, Adlington Park, Macclesfield SK10 4NP

sor, the MEMC and VIDC chip.

Feasibility: It may not even be possible to make a memory access chip based on accessing bits of memory.

Backwards compatibility: Obviously programs written on a 64-bit machine would not run on the 32-bit machines and vice versa, but in is not inconceivable that an emulator could interpret some of the more basic programs.

I have been thinking about this for some time now and have come to the conclusion that the best idea would be to write in and see what you thought of it (or how many holes you could pick in it).

B Slater
Coventry

Interesting stuff. If only I'd kept up that university course on VLSI design I could comment, but I'm sure our more technical readers will have something to say. Over to you, tech-heads. (MM)

Relation impact pro

Having just read Steven Abrahart's letter on databases (November 1994) I would like to recommend to him and your readers *Impact Pro* from Circle Software. I have tried most of the 'heavy' database programs, but I always return to *Impact*.

For sheer ease of use it takes some beating and, having just received by return an upgrade following a suggestion for a small change in the program, I have to say the support from Circle is superb.

I don't know if the relational aspects of Impact would meet Mr Abrahart's needs, but they do incorporate the 'drag and drop' field linking that he mentions. The only aspect of the program that I guess might deter the 'trendies' is that it does not use outline fonts, but this is not really a problem since *Impact* uses *Impression* (linked via Impulse) for report generation.

I have no connection with Circle Software beyond that of a satisfied customer.

Robert Gayton
Liverpool

Circle Software says *Impact Pro* is fully relational: ring (01793) 770021 for details. Meanwhile, here's a letter from Digital Services on the same matter. (MM)

Nut enough?

As the producers of the popular *Squirrel* database, we would like to make the following comments. There are many different definitions of 'relational'. *Squirrel* is totally compliant with the definition drawn up by the SQL standards committee.

Mr Abrahart does carry on to outline his requirements, and we agree that what he wants to achieve is not possible on current Acorn databases without writing additional code. This is not, however, an indication of anyone's lack of ability or foresight, and is certainly no reason for anyone to commission a new product from 'larger companies'. I am sure that the producers of any of the three databases mentioned in the letter are more than capable of writing the features that Mr Abrahart requires.

Digital Services has an ongoing 'wants' list of new features which is constantly updated and regraded, and which our development team is eager to implement. Regrettably, commercial issues have to be taken into account, and we can only add new features to the program when they can be justified financially. Microsoft sold two million copies of *Access* within the first week of release: Acorn sales are a drop in the ocean by comparison.

I seem to remember IBM commissioning OS/2 versions of popular applications from the likes of Corel and Aldus when its operating system was first launched. I also remember the software houses receiving several million pounds each for the conversion.

Now... would anyone like an OS/2 version of *Squirrel*?

Stephen Taylor
Digital Services

But OS/2 was in direct competition with Windows on the same platform. As far as I can remember, RISC OS had one 'competitor', and it was called Arthur. 'Nuff said.

Viewpoint

As far as most Acorn users are concerned, Matt Bellamy (see 'Low profile' opposite) must be some kind of rarity. Seeing Acorn machines on the TV once is impressive enough, but twice in one month is surely astounding.

It's the most common complaint about Acorn – its machines, the Risc PC especially, are stunning examples of their kind, yet Acorn doesn't get out there and give it the hard sell. There is no publicity. No big glossy adverts in the national press. Punters like to compare the launch of the Risc PC to the launch of the Power Mac, when they declare that the only reason Acorn got into the PC magazines' news pages was because of that ASA ruling against Apple, and by the time the result was announced, it was too late. In short, the cynics rave, Acorn's marketing team is about as successful as a chocolate fire guard.

But is this fair? Well, it depends who you talk to. I've just received a collection of Acorn's press clippings from one month – August of this year, covering the Risc PC, Apple's claims and so on – and it's at least a centimetre thick. That's not bad coverage, and it's cheaper than advertising: if Acorn took out a four-page advert in *PCW* or *Computer Shopper*, say, would you notice? Do you see Apple advertising in these magazines? The answer to both questions is no, because adverts in the large computer magazines gets lost, and they're only aimed at those looking for a cheap PC clone, not those buying more expensive and more expansive hardware.

There are other ways of counteracting the cynics. Acorn is becoming increasingly aware that to sell its computers, it needs to appeal to the public on a more practical level, and less of a technical level. So Acorn is hitting is the link between home and education. A prime example of this was the launch of the P&O deal – two of P&O's newest ferries will contain Acorn's *Early Years* pack in the children's area – where journalists from 'home interest' magazines and the big newspapers were invited on board for a trip across the Channel, to sample the delights of *Doris the Dotty Dog* and *Flossy the Frog*. Only one journalist from the Acorn market was present, and the result was an astounding success: instead of the technical and, one might say, cliquey press conferences we are used to in the Acorn market, the emphasis was on how the kids interacted with the machines, what this meant for long ferry rides, and so on. There's no doubt in the minds of those who attended that this approach worked.

However, there are criticisms which even the most optimistic among us find it hard to rebut. The South African market – which, incidentally, has a whole eight pages dedicated to it in the press cutting collection – is based around totally different criteria to the UK market, and the sales philosophy relies on value added reselling, which is a fancy marketing term for putting together complete systems for specific solutions, with the computer being only one part of the package. In South Africa, the DTP market is being targetted by systems comprising a Risc PC, scanner, printer, DTP package, photo retoucher, graphics package, and so on, and they're lapping it up. In the UK, this isn't happening. Look through the adverts in this magazine: they're all selling machines on their own, trying to keep the prices competitive. Hardly a value-added system in sight, bar Acorn's own small software bundles.

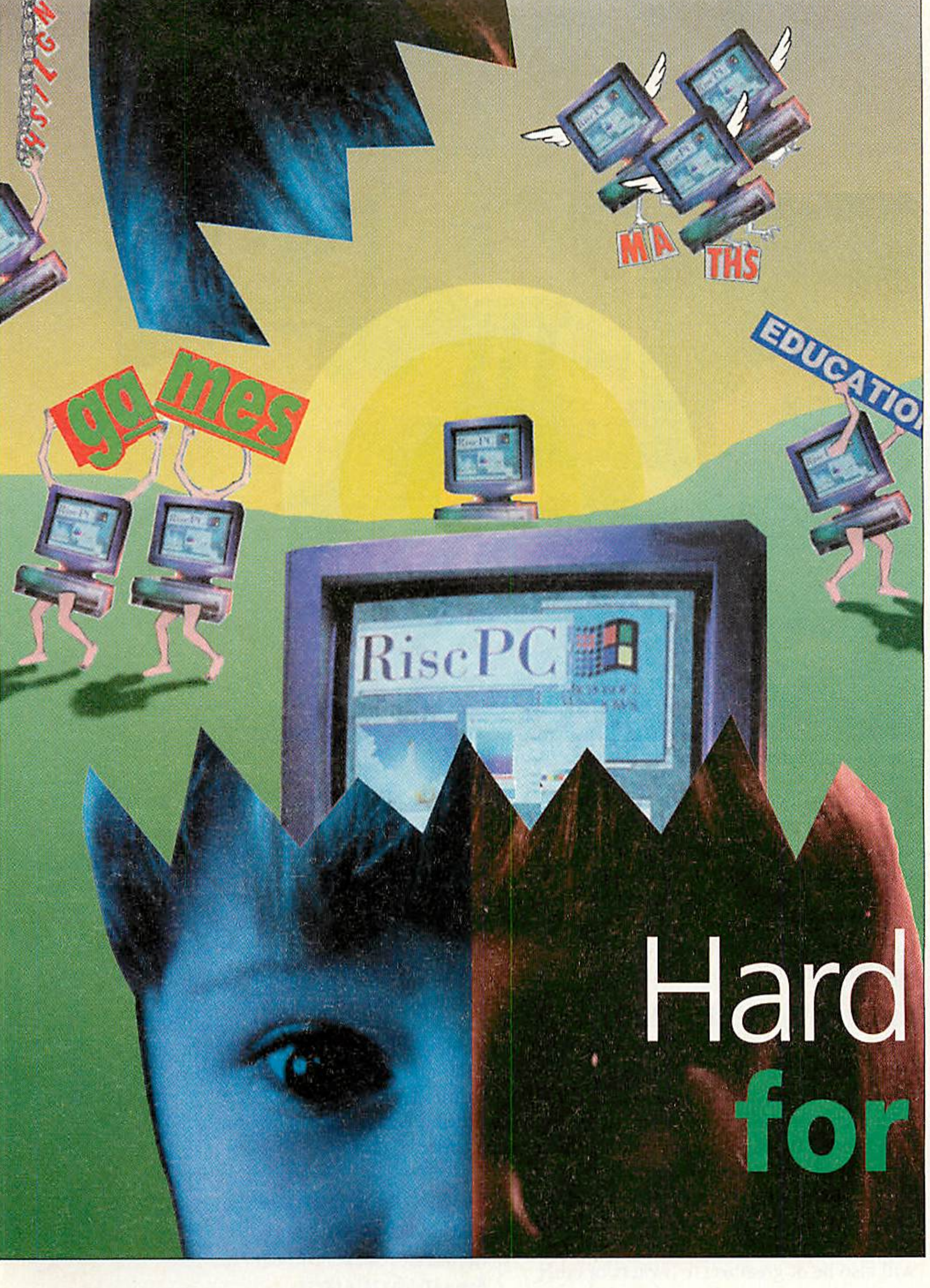
So Acorn might be trying harder than people give it credit for, but things could be better.

Viewpoint 2

As a postscript to the above, while out clubbing in Uxbridge last week, what should I spot controlling the laser system but an Archimedes running a Laser Grafix controller (see The Moxon Interview, November 1993). I doubt the DJs knew it was an Acorn, and I doubt they cared: what they had was a cost-effective and sophisticated system that did what they wanted. *That's* what value added systems are all about.

Just don't try 'did you know that there's a 32-bit Acorn computer controlling these lasers?' as a chat-up line. It doesn't work.

Mark Moxon



CARL FOX

Hardware for special needs

Geoff Preston examines the hardware available for special needs students.

For many, computers are not as accessible as most of us would like to think. Mice can be incredibly frustrating devices to master and keyboards are no better, even for some able-bodied people. But not all of us are blessed with all our faculties, so a few specialist companies have begun manufacturing alternative input devices. These tend to be very expensive for two reasons. Firstly, they have to be built to withstand some fairly rough treatment. This will include being dropped on a regular basis and having the full weight of someone applied onto it. Secondly, the production numbers are small, in some cases so small the items are virtually hand made.

The purpose of the articles over the next four pages is not to highlight products for the severely disabled, but to show some of the best special needs devices which could also be beneficial within a main-stream classroom. Here I'll cover input devices.

ArcTracker (£350)

The instructions for ArcTracker are simple: unplug the mouse, and plug in ArcTracker instead. The main control is an analogue joystick which takes control of the mouse pointer. Being an analogue device, you are not restricted to movements in multiples of 45°, but can move the mouse pointer in any direction. The speed of the pointer is proportional to the displacement of the joystick and the overall speed can be controlled by a large rotary switch on the side.

On the facia are nine buttons. Immediately under the joystick is the menu button which operates in exactly the same way as the middle button on the mouse. On the left are three switches, each of which represent the three actions of the left mouse button (Select): single-click, double-click and drag. The latter locks whatever the pointer is against. So, to save a document, press F3, move the pointer onto the icon and press Drag. A LED will light to tell you you're in 'drag mode.' Move the pointer to a Filer window and the icon will be carried with the pointer. Press the Drag button again and the icon is released and the document saved. On the right are three identical buttons which do the same job but are for the right (Adjust) mouse button. At the top are two switches to lock vertical or horizontal movement only. This is a quality device which has clearly been carefully designed and will give years of service.

ArcTracker is supplied with a very sturdy finger guard which gives the user something to rest against, but can be removed if required. There is also a rollerball variation at £269.

Roller (£89)

I've tried rollerballs, and I really can't get on with them. However, some children find a mouse just as unfriendly, so IT co-ordinators would be wise to have a couple of trackerballs available. SEMERC's Roller is a sturdy device and features a drag lock which makes dragging objects much easier, or for me, possible. This is a direct replacement for the mouse and requires no additional software.

Like ArcTracker, Roller is produced by Penny and Giles Computer Products Ltd and is available through NorthWest SEMERC.

SEMERC Mouser (£47)

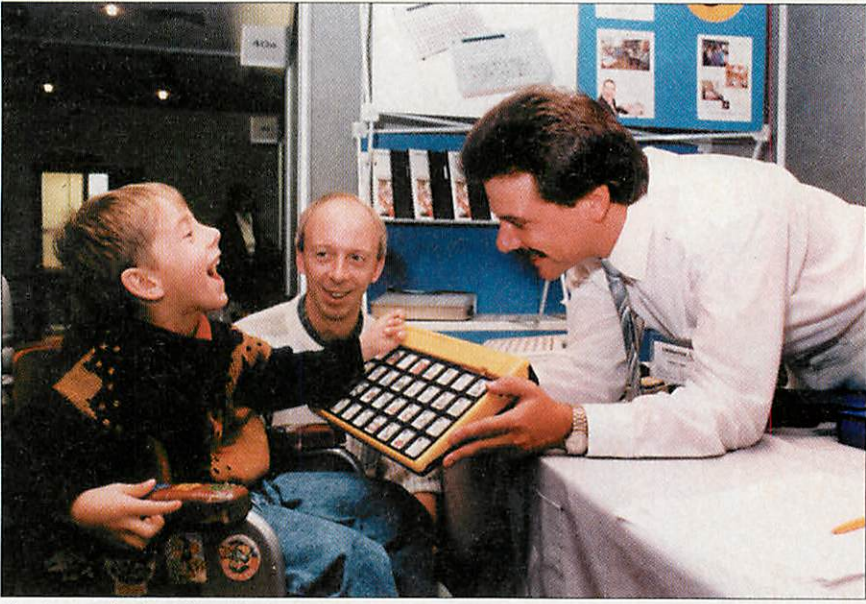
The Mouser plugs into the socket that is usually reserved for the mouse, and the mouse then plugs into Mouser. At one end of Mouser are three switches with LEDs which enable or disable the mouse buttons, thus preventing little fingers pressing the wrong button. This is really two devices in one and I feel the second part of Mouser is potentially more important than the first. At the side are three 6mm jack sockets, and an on/off switch wired to a suitable jack plug can be used to control each of the mouse buttons. So why would you want to do that? Well, the switch need not necessarily be a toggle switch, but could be a

mercury tilt switch, a vacuum switch, or a foot operated switch enabling the mouse buttons to be operated by several different means depending on the disability.

Commotion can supply a wide range of special switches and jack plugs to create your own input device which could meet the exact requirements of the person using the computer.

Holdfast Joypad (£24.99 inc VAT)

This is effectively a digital 'joystick' which uses buttons instead of a stick. It is supplied with a 9-pin Atari-type joystick plug, so will only fit the A3010, unless you buy a separate joystick interface. Because this is not a mouse replacement it will not necessarily work with all software, although the on-board emulation on the Leading Edge interface should make it compatible with most special needs software which expects single-button input. The Holdfast Joypad is a very robust tool which looks to be almost unbreakable.



The Concept keyboard in action.

Alternative keyboards

When I first saw similar keyboards many years ago on the BBC computer, they looked to be very flimsy devices. Not any more. These keyboards are very robust and considering what's in them, very cheap. The principle is simple enough. Place an overlay onto the keyboard which contains shapes to represent only the keys that are needed for the task in hand. The are many programs available which make use of these keyboards and the overlays are supplied with them.

Here are just three of several versions currently available, so starting from the bottom...

Oldham Overlay Keyboard (£120 + VAT)

This A3 keyboard requires a user port to be fitted to the computer which will cost an additional £50 or thereabouts. It is very robust and features both audible and visual indication that a key has been pressed. Although it has 150 switch cells, it can also function as a single switch.



Concept Universal (£115 + VAT, A4; £125 + VAT, A3)

Unlike older A4 Concept Keyboards, this version is a scaled-down A3 rather than a cut-down version, in so far as it has the same number of cells. This means that overlays can be copied and reduced from A3. The Universal keyboard will connect to either a user port or to a serial port. Note that all Archimedes computers will require a user port to be fitted, although all but the A3000 are fitted with a serial port. An A3000 serial port upgrade kit is about £25. This is a very robust item which comprises a sturdy case and touch-sensitive work area.

Informatrix (£169 + VAT)

This A3 keyboard could be regarded as a high resolution version of the Concept Universal keyboard, having 4,096 cells. Although it can be used in 'standard resolution mode' it really comes into its own when used with overlays with irregular areas. Also available is a keyboard overlay designer called *Informax* (£30 + VAT) which, although designed for Infomatrix, will also be of great use to owners of other keyboards.

Black Box Sound Sampler (£29.95)

This is very simple and cheap product from Focus IT which gives outstanding results. The kit comprises a microphone, an interface and a disc. Installing the interface does not require the computer to be dismantled as it fits into the printer port at the back of the computer. The microphone is plugged into the interface and the software is loaded from the disc. Sounds, which could be speech, are saved as either *Armadeus* or *Tracker* files or, alternatively, can be saved as relocatable modules which can be played by issuing a star command. It records at 12MHz (the telephone is about 4MHz), so the quality is remarkably clear.

Unless otherwise stated, products described here are available from Northwest SEMERC. AU

Telephone numbers

ESM: (01223) 65445
Northwest SEMERC: 0161-627 4469
Focus IT: (01274) 618774
Holdfast Computing: (01454) 411126
Longman Logotron: (01223) 425558
Sherston Software: (01666) 840433





HOW TO ORDER: Order by telephone quoting your credit card number. Order by post, cheques payable to "Technology Matrix".

EDUCATION ORDERS: Education orders are welcome. Please post or fax your official order for immediate attention.

TERMS: All prices exclude V.A.T. & carriage. Prices & specifications may change without notice. E. & O. E.



VISA



HARD DRIVES



A3000/A3010
(WITH INTERFACE)

_80MN 15MS IDE	195
120MB 15MS IDE	239
170MB 15MS IDE	259
250MB 15MS IDE	279
340MB 15MS IDE	319

A3020

_80MB 15MS IDE	139
120MB 15MS IDE	169
170MB 15MS IDE	189
250MB 15MS IDE	219
340MB 15MS IDE	279

The above Drives are complete with all fittings

A3/400/4/5000/RISC PC
IDE

210MB IDE DRIVE	129
260MB IDE DRIVE	139
340MB IDE DRIVE	159
420MB IDE DRIVE	179

SCSI

260MB SCSI DRIVE	159
340MB SCSI DRIVE	179
540MB SCSI DRIVE	219
1.0GB SCSI DRIVE	449
2.0GB SCSI DRIVE	1199
4.0GB SCSI DRIVE	1849

Call for external Drive prices



SYQUEST

NEW!

Denton SyQuest drives provide you with the ultimate hard disk storage - without imprisoning your data on a hard disk! Whenever you run out of storage space, simply eject the cartridge you've just filled up, and insert an empty one. It's that simple!

Whatever your storage needs - transporting documents, archiving your files, or just keeping a copy of your data off-site for security reasons - Denton Removable SyQuest drives are the answer!

DENTON

SCSI (INTERNAL)

_88MB INTERNAL	199
105MB INTERNAL	189
200MB INTERNAL	299
270MB INTERNAL	315

SCSI (EXTERNAL)

_88MB EXTERNAL	279
105MB EXTERNAL	259
200MB EXTERNAL	389
270MB EXTERNAL	389

IDE (INTERNAL)

105MB INTERNAL	149
270MB INTERNAL	315

CARTRIDGES

88MB CARTRIDGE	55
105MB CARTRIDGE	45
200MB CARTRIDGE	65
270MB CARTRIDGE	55

TAPE DRIVES



DENTON

250MB QIC Drive	495
500MB QIC Drive	629
1.0 GB QIC Drive	795
2.0 GB DAT Drive	875

Supplied with cables tape and software

OPTICAL DRIVES

NEW!

FUJITSU

128MB Internal	459
128MB External	539
230MB Internal	549
230MB External	629

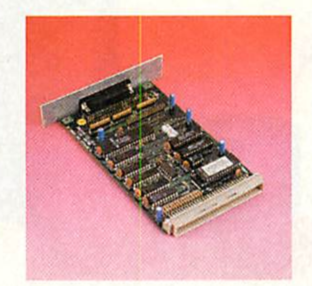
SONY

650MB Internal	1495
650MB External	1590
1.3 GB Internal	1689
1.3 GB External	1759

CARTRIDGES

128MB Cartridge	29
230MB Cartridge	49
650MB Cartridge	69
1.3 GB Cartridge	99

I/O CARDS



IDE

A3000/3010 Series	69
A300/400 Series	69

SCSI

A300/400 16 bit	119
A3/4/5000 16 bit	119
RISC PC 16 bit	119
RISC PC 32 bit	199

GRAPHICS

Colour Card Gold	239
Chroma 500 Genlock	419
Chroma 150 PAL Encoder	169
Chroma Genlock card	209
Hawk V9 MKII Digitiser	189
Eagle M2 Multimedia card	319
Vision Colour Digitiser	99
HiVision Colour Digitiser	149
Scanlight Video 256	199

CD-ROM DRIVES

NEW!

CUMANA OSCAR 229
Dual speed. Connects to printer port on A3010/3020, 4/5000, RISC PC.

CUMANA BRAVO 299
Dual speed, available with printer port connection or SLCD interface on A3000, A5000.

CUMANA VICTOR
Dual speed SCSI drive, available in single or six drive systems running at Quad speed

402A Dual speed	299
632A Dual speed	399
602-6CD Dual speed	499
604-6CD Quad speed	969

CUMANA INDIGO
The ideal CD-ROM for the RISC PC. The 300iA includes an audio mixer and Atrisan 2 CD.

300i IDE interface	199
300iA IDE interface	249
401 SCSI interface	199
631 SCSI interface	299

MONITORS

ACORN

AKF52 14" Multiscan	245
AKF50 14" Hi.Res.	295
AKF60 14" ES Multi.	309
AKF85 17" PS Multi.	945

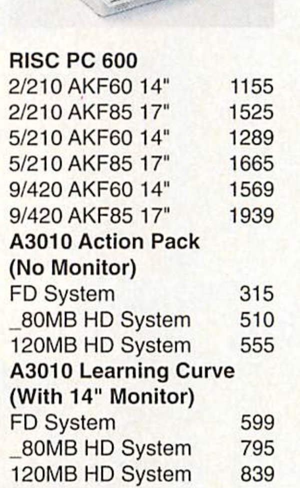
ACCESSORIES

50/50 way SCSI cable	15
25/50 way SCSI cable	15
SCSI 2/50 way cable	25
SCSI Terminator	15
2nd IDE drive fit.kit.	10
External drive case	79

STAR BUY

SyQuest 105MB £149
SyQuest 270MB £299





RISC PC 600

2/210 AKF60 14"	1155
2/210 AKF85 17"	1525
5/210 AKF60 14"	1289
5/210 AKF85 17"	1665
9/420 AKF60 14"	1569
9/420 AKF85 17"	1939

A3010 Action Pack
(No Monitor)

FD System	315
_80MB HD System	510
120MB HD System	555

A3010 Learning Curve
(With 14" Monitor)

FD System	599
_80MB HD System	795
120MB HD System	839

A3020
(14" Monitor)

FD System	629
_80MB HD System	825
120MB HD System	839

CALL FOR PRODUCTS NOT LISTED



RISC OS 3

Turbo DRIVERS

VERSION 4

Just a few of the printers supported by TurboDrivers...

...more drivers

The TurboDrivers have been extended to support new printers, including the Epson Stylus Colour and to be compatible with the latest versions of Acorn !Printers and the RiscPC.

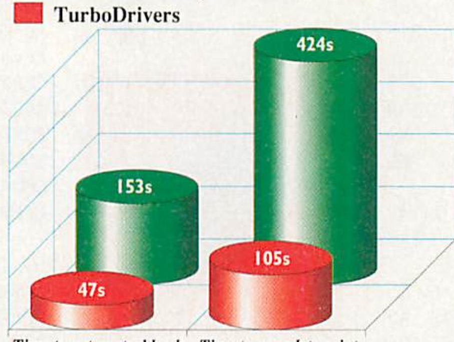
With the availability of new reasonable cost colour inkjet printers, and the increasing use of colour in printed documents, there is now even more reason to use TurboDrivers than ever before.

...more Turbo!

In the simplest cases, printing single copies of black and white documents, with little or no graphics, the TurboDrivers give performance gains of twice or more. However, for more complex documents, or multiple copies, or for colour documents the gains can be even more spectacular.



Risc PC TurboDriver timings



The graph shows the spectacular performance gains that are possible using TurboDrivers. These comparisons are made using the latest versions of !Printers, with a fairly complex single page DTP document (!MicroScope) on a colour inkjet and show that even on a Risc PC, the TurboDrivers can dramatically improve your printing performance.

Our tests show that when printing two copies of a typical 3 page document, containing a good mix of font styles, Draw and Sprite graphics, TurboDrivers can give control back up to 10 times sooner than the Acorn drivers.

These test are done with the Acorn drivers in 'background' mode (the new 'faster' way to get control back). When using the Acorn drivers in 'normal' mode the differences are even greater. The speed gains apply both to the older Acorn range and the Risc PC computers.



Version 4 drivers require Risc OS 3.1 or later. 2Mbyte RAM and hard disc recommended. Please state printer type when ordering.

TurboDrivers Canon - £49 + VAT (£57.57 inc)

TurboDrivers HP - £49 + VAT (£57.57 inc)

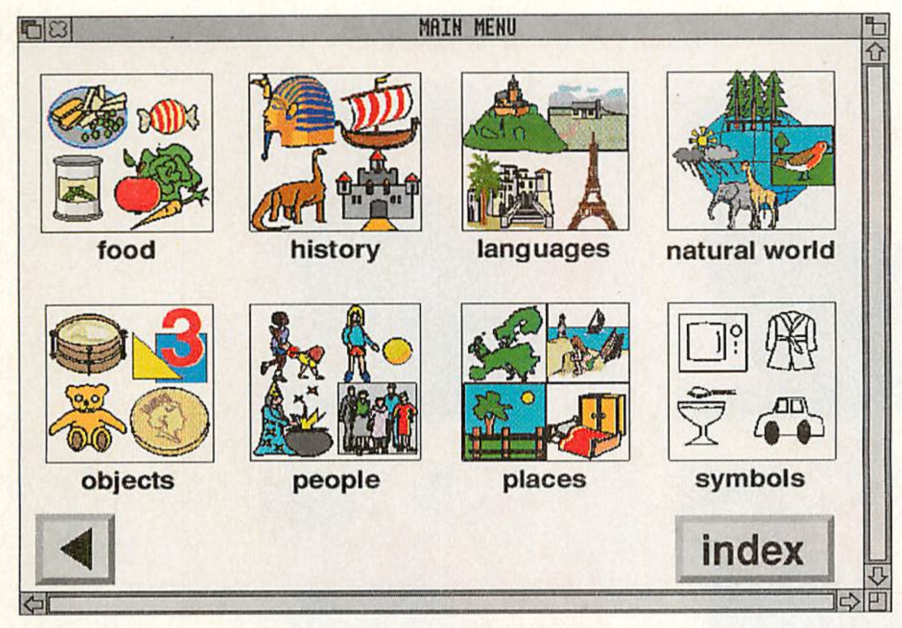
TurboDrivers Epson - £49 + VAT (£57.57 inc)



Computer Concepts Ltd

Gaddesden Place, Hemel Hempstead, Herts, HP2 6EX Tel 01442 63933 Fax 01422 231632
Email info@cconcepts.co.uk

Information overload



Treasure Chest by SEMERC shows a consistent approach for special needs.

Trish Hornsey looks at developing CD-ROMs for special needs.

We certainly do live in an information age with vast amounts of knowledge available to everyone. This gives cause for concern when working with learners who have special needs. How can they make sense of a complex world in which the amount of information is rapidly increasing?

The computer can help us all with the availability of information and in our ability to handle it. Databases can help us store and organise information, spreadsheets can help us to manipulate information and, more recently, CD-ROM can enable us to have access to vast amounts of information in textual, pictorial and aural forms. CD-ROM can provide a complete encyclopedia on a single disc, or can provide an interactive learning environment.

But this ready access to information presents its own difficulties for learners who have special needs, whether those difficulties are sensory, physical or conceptual. How can a person with a visual or hearing impairment understand everything in an information age? How can a person with physical difficulties access that information? How can a person with learning difficulties begin to understand such a complex world?

This is really a plea to those developing CD-ROMs to consider those learners who need easy access to information, and need to be given as much independance as possible. Because CD-ROM can potentially use pictures, animation, video and sound, it can be much more accessible to many learners with special needs than traditional books. Yet, in their desire to be appealing, many CD-ROMs are over fussy with busy screens, buttons that are never in the same place twice, and can have a confusing structure.

Acorn is streets ahead of other platforms in education and developers, with their tradition of good educational software, have an opportunity to develop even better software through the medium of CD-ROM. Some of the things I look for in a good CD-ROM are the use of speech and sound to support or complement the reading required – not just spurious, interfering sound – use of graphics, animation and video to support learning, access to resources by mouse, keyboard, concept keyboard, switches etc., the ability to save resources to use again and above all, consistency and simplicity in screen design.

Learners with special needs thrive on consistency. Buttons in the same place with the same function can make a world of difference to a learner with a visual impairment or someone with conceptual difficulties. An index with a large text option can increase accessiblity for those with visual difficulties. A comprehensible visual mode can mean accessibility to large amounts of information for those with a hearing impairment; speech and sound aren't the answer for everyone.

ESM's *Micropedia* (opposite) is a children's encyclopedia which scores well on consistency, and usually on clarity of screen design. It uses icons to represent categories (useful to poor readers) and has a facility to display the text in large print if required. My only reservations are the lack of speech to support reading, and the fact that I found some of the facilities unintuitive. Like many people I don't like reading manuals, but unlike some people I can if I have to. A simple, intuitive structure which allows easy access at any level and always takes you back to the beginning if you are lost can help. Many learners can get lost in a complex menu structure.

I am not asking for over-simplicity. We have to meet the needs of all learners. About 80 per cent of learners who have special needs are in mainstream schools; a very small number are in special schools. Only in very rare instances do we want special software for special learners. More often we want access to good software for all learners. The best educational software provides for all learners, not just the most able.

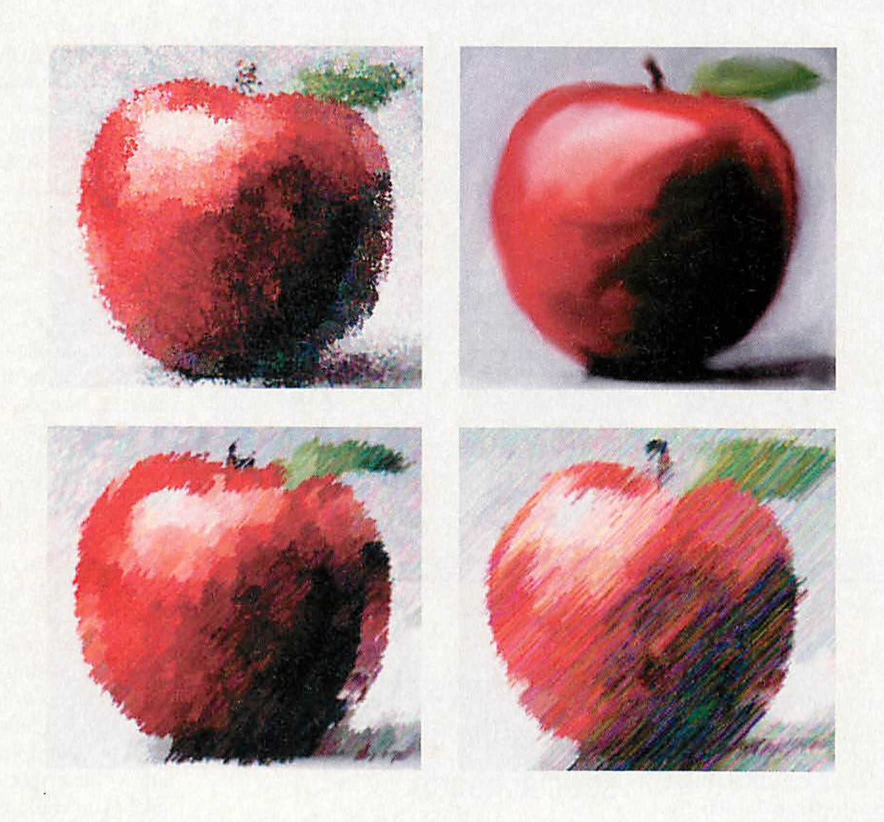
My World from SEMERC is probably one of the most successful and useful pieces of educational software. Its beginnings lay with one special needs pupil in a wheelchair who needed some control over her day. The original Diary screen was created to allow her to record her own day. This package has gone on to be used right through from Special schools to A-level and beyond and will soon be seen on CD-ROM.

If you get it right for the learners who have special needs then you have probably got it right for everyone. AU

PRO ARTISAN



UNLEASH THE ARTISTIC POTENTIAL OF THE Acorn Risc PC



ProArtisan 24 is the latest development in the hugely successful Artisan series. Designed specifically for the Acorn Risc PC, ProArtisan 24 exploits the enormous artistic potential offered by allowing the use of 16.7 million colours for image creation and display.

This means that the computerised tools provided, such as chalk, water colours and pastels, mimic their natural counterparts very closely. Add to this ability to load Photo CD images in full 24 Bit colour and what you have is an exceptional painting package for your Risc PC, with the added benefits of many powerful image processing tools.

Acorn RISC PC

A fact pack is available which includes a demo version of the software.

APPROVED BY REEVES BRINGS COLOUR TO LIFE

Price £169.95 inc VAT
Upgrade from ProArt 2 or 2CD for just £49.95 inc VAT
Upgrade from any other art package (including Artisan Series) £85.00 inc VAT





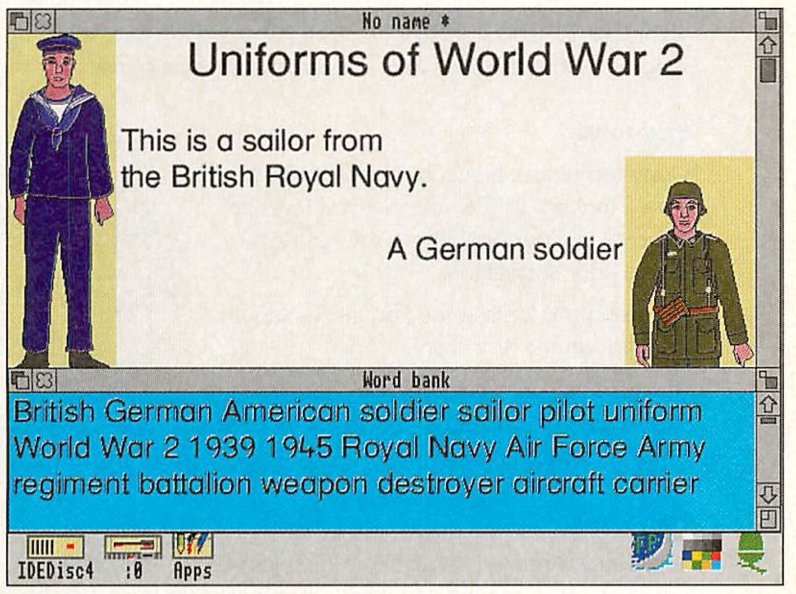




Clares Micro Supplies, 98 Middlewich Road, Rudheath, Northwich, Cheshire CW9 7DA. Telephone: 01606 48511 Fax No: 01606 48512

The power of speech

Trish Hornsey from Northwest SEMERC offers some advice for all users.



Talking word processors have been around for some time.

Supporting learning by using pictures, symbols, sound and speech can have immense power to aid recall, enable recording and increase independent learning. Motivation can be increased immeasurably. Anyone working with learners with attention difficulties will recognise the child who cannot concentrate on a task for more than a few minutes at a time. Place that child in front of a computer which responds with speech, sound and perhaps animation, and see the results.

You only need to see the effect once to be hooked on the computer as an aid to learning. Similarly, see the look on a learner's face when they hear their writing spoken back to them by the computer. The first time is just magic.

Talking word processors have been around for a number of years and there are several other programs that make use of speech and sound to support learning. SEMERC brought out a talking version of *Phases*, then Longman Logotron was involved with the Somerset *Talking Pendown* project, both of which have brought success in literacy to many learners.

There are basically two types of speech/sound – synthesised and digitised. Synthesised speech is the robotic sort of speech that a word processor will use. Some teachers hate this, but most children love it. The computer has been 'taught' the rules of English spelling and some of the exceptions. Unfortunately, English has more exceptions than rules, so mistakes can be made. We hear complaints that it is teaching the children bad patterns, but balance this against the variety of language that children hear in their own environment and on television and it is really not that bad. Sometimes the computer mis-pronounces a word but this can be used to good effect as learners will begin to question the computer. 'Why did it say that word wrong?' They can then begin to look at patterns in words and begin to understand the rules.

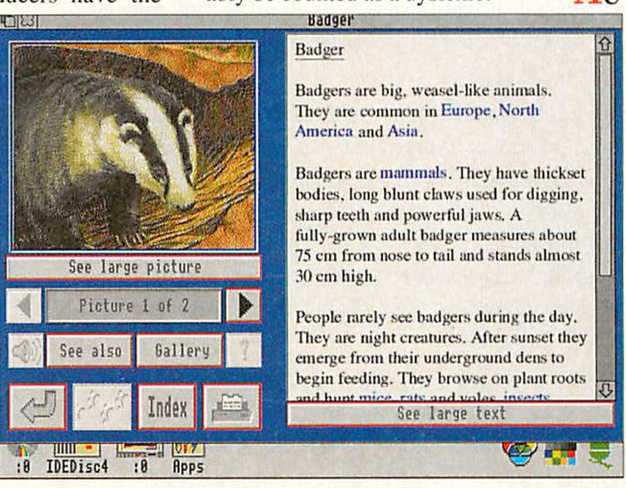
Digitised speech is real speech, recorded and converted to a digital form the computer can understand and reproduce. It is generally favoured because it is real speech, but has its own drawbacks. Firstly it takes a lot of disc space and memory. Secondly, software producers have the eternal problem of accent and local dialect. Whatever accent you use, someone in Aberdeen or Cornwall will want a local version. Perhaps it does not matter so much with television around, but good framework software that lets you add your own (or the learner's) voice may be the answer.

Talking stories have emerged recently as a powerful tool using digitised speech. Notable among these, Sherston's *Naughty Stories* and *Oxford Reading Tree* books have rightly become very popular. These allow the learners to listen to a story, in conjunction with the real book. They can go back and listen to words again and see some animation to add interest. The software will even keep a tally of those words they listen to again.

Books can be created using your multimedia programs. These frameworks can be extremely powerful for tailoring activities to individual learners or curriculum areas. SEMERC's *Optima* is an easy program to begin with, although you may want to move on to something more powerful eventually.

One example is a record of a special school outing. Every pupil contributed something, either a picture or some speech. It is a true group record – something often quite difficult to achieve with these learners and they will revisit this application with pride. These are learners who find traditional literacy very difficult, but who can express themselves very well using pictures, symbols, speech and sound.

I think this is something that deserves more thought. We live in a world dominated more and more by images and sounds rather than the written word. Yet we still expect *all* learners to communicate by means of the written word. I must admit that if our literacy had developed differently and were dependent on drawing rather than writing, then I would probably be counted as a dyslexic. AU



Books can be created using your own multimedia programs.

*F*ont Directory is the only font management application which contains a dedicated font filing system. All other programs work by simply swapping whole directories or moving font files from one folder into another.

Although writing and desiging a font filing system has taken more time and effort, it offers some additional benefits...

- **More flexibility** – Individual fonts (not just families or directories) can be installed and removed. You can also organise your fonts into categories, families and weights.
- **Saves space** – By using directories which only take up 2K, the space used by your font collection can be reduced.
- **Kind to discs** – Unlike some systems, font availability is controlled in memory and not by moving font files on the disc. This saves a lot of unnecessary disc access and speeds up the availability of your fonts.
- **No limits** – Well, not exactly... you can store over 5900 font families! And you can make many of these fonts available at any one time – typically over 700 font families.
- **Network friendly** – A special version of the software is available for network users. This allows each station to have a personal view of a central collection of fonts stored on a file server.
- **Star commands** – If required, star commands are provided to allow you to specify which fonts should be made available.
- **RISC OS compliant** – It works with both RISC OS 2 & 3 and is desktop compliant. As registered developers, the calls and messages provided are officially recognised by Acorn.
- **Well documented** – It comes with a 32-page printed manual which includes both a primer and a detailed description of the facilities provided.
- **Reviewed** – Here's what the reviewers say:

RISC User, Jan/Feb '94: *"This program provides the kind of facilities which should have been built into the operating system in the first place. It is very easy to use, and I find it utterly invaluable. Anyone who has more than a handful of fonts should buy it without delay. It is superbly presented, operates flawlessly, and has become a permanent addition to my iconbar."*

Archive, Sept '93: *"The real pièce de résistance is the facility to scan documents and files and install the fonts required automatically. This is a dream to use. I have always found it frustrating that Impression would simply replace all uninstalled fonts with Trinity without even giving the option to abort loading the document. Draw would replace unrecognised fonts with the system font. Now that is all a thing of the past.*

I was very happy with Font Directory. I found it very easy to install and use with minimal reference to the manual... this is a highly intuitive application – a great deal of care and thought must have gone into its design and realisation. It integrates seamlessly with RISC OS and if you use a lot of fonts, you have to have Font Directory."



A font filing system

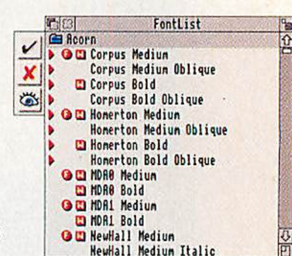
Hundreds of outline fonts are now available for the Archimedes and new fonts are being produced all the time. This is all very well, but it does mean that using and managing fonts is becoming increasingly difficult.

What is Font Directory?

Font Directory is a radical approach to storing and using outline fonts within the RISC OS desktop. At its heart is a dedicated font filing system which provides the user with an unparalleled level of control.

Easy-to-use

Using techniques pioneered by LOOKsystems, Font Directory allows you to install fonts at the click of a button without the having to restart your application.

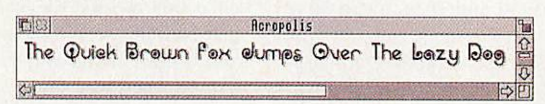


Just select the fonts in the FontList window and click on the 'tick' icon.

(If you wish, you can specify which fonts will be available on start-up and save favourite lists of fonts for later use.)

Font viewer

A preview window is available to help you decide which fonts you wish to install or just to remind you what a particular font looks like. If required, the text, size and colours used to display a font can be defined and even saved for later use.



Document scanning

The most powerful feature, however, has to be the ability to scan other applications' documents. When a document is dropped onto Font Directory, the fonts used will be made instantly available.



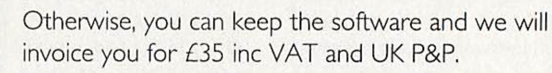
At last, no more 'font not found' errors!

FREE trial offer

Font Directory does a lot more than we can explain on a single page and so we are offering you the opportunity to try the software for free.



Just contact us at the address below and we will send you a complete pack. This can be returned within 10 days and you won't be charged a penny.



Otherwise, you can keep the software and we will invoice you for £35 inc VAT and UK P&P.

This offer only applies to UK residents.

LOOKsystems, 47 Goodhale Road, Bowthorpe, Norwich, NR5 9AY. Telephone: (0603) 748253. Facsimile: (0603) 764011.

A hard disc is recommended and you will need enough space to store all of your fonts. Most major applications and file formats are supported.

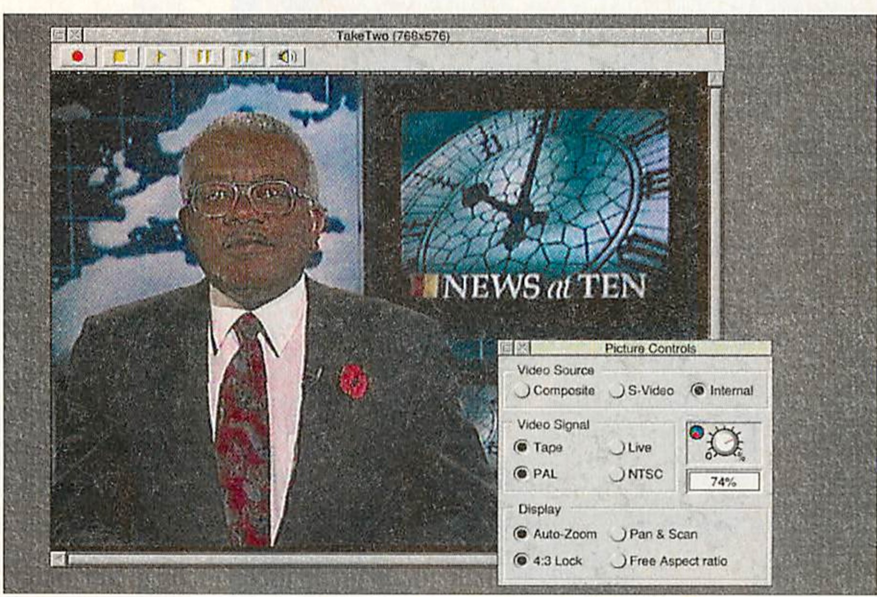
Page the Oracle

Ian Burley looks at a new expansion card which lets your computer read TV teletext pages.

Broadcast teletext is a valuable but entirely free resource pioneered in Europe. We take it for granted here, but take a trip to the USA, for example, and it's quickly missed. Teletext pages are now available on more than the four main BBC and ITV channels; if you're connected to cable or satellite TV services, there are dozens more teletext channels to choose from, including foreign language pages.

Using a computer to look at teletext has several advantages. First of all you can copy pages into image or text files for later perusal. You can program your computer to automatically seek out and extract pages of information using timed conditions. Using a teletext server on a network, pages can be viewed from a suitable network station computer. It's ideal for schools.

A by-product of the teletext hardware is that there is a TV channel tuner on-board, so why not use it as a means of watching TV, either on a separate monitor or on the computer screen itself?



If you want to watch TV on the RISC OS desktop in a window, you need to have a suitable video capture card like a CC Greyhawk (monochrome) or Eagle (colour) which takes a composite video feed off the tuner card.

The following is a look at the solution evolved by Design IT and Computer Concepts/Wild Vision. Design IT produced its TeleView Hardware card just at the time Wild Vision was exploring the possibility of producing something similar. Rather than re-inventing the wheel, the two companies got together; Design IT developed the software and Wild Vision the hardware. Design IT will still produce its original design to order, but most production models will be the enhanced Wild Vision versions marketed by Computer Concepts.

These new versions are available as TV tuner-only and combined TV tuner and teletext models. If you are in two minds about having teletext, beware of the fact that a TV-only card is not easily upgraded to teletext specification because a number of supporting components need to be soldered on manually. Design IT can also supply an externally boxed card for A3020/A4000 and A4 users, which interfaces via the parallel printer port.

The Wild Vision cards differ from the Design IT version in one major way; there is a 9-pin D-connector RGB port to drive an external monitor. The Design IT card makes do with a composite video BNC connector only. All variations of the card interface to the computer via an I²C bus and there is no ROM on the podule. This is a little disconcerting at first because the podule doesn't show up under *PODULES.

Two main software applications are supplied: *TVTuner* and *TeleCFax*. The former must be run before the latter. *TVTuner* is used to find the strongest station signals whose settings are then saved in a configuration file used by *TeleCFax*. Up to eight stations can be programmed using a horizontal channel number bar graph. You can set the program to automatically find the stations or you can drag the bar tuner manually with the mouse. The channel number and frequency are displayed and below there are indicators which tell you if the signal is in tune and if teletext data is being received clearly.

Before you can run *TeleCFax* to view teletext pages you must quit *TVTuner*. *TeleCFax* then tunes in to a default channel and displays a default teletext page, which can be chosen by the user. As far as I could see, if your default channel happens to be badly tuned, you can't get *TeleCfax* to work at all: its TV screen program icon simply sits there blank. Once it has found a default page, a two-part windowed display appears with a slim-line tool box to one side of the main display window.

The teletext display in a window is remarkably good, resembling the videotext display of David Pilling's excellent *Hearsay* comms package. Alternatively, you can use the RGB connection to display teletext on a conventional standard resolution monitor. There are options to save the display window as a sprite or a text file. You can also use a 'DTP' export option which strips graphics characters plus teletext header and footer lines and ignores the 40 column line limit.

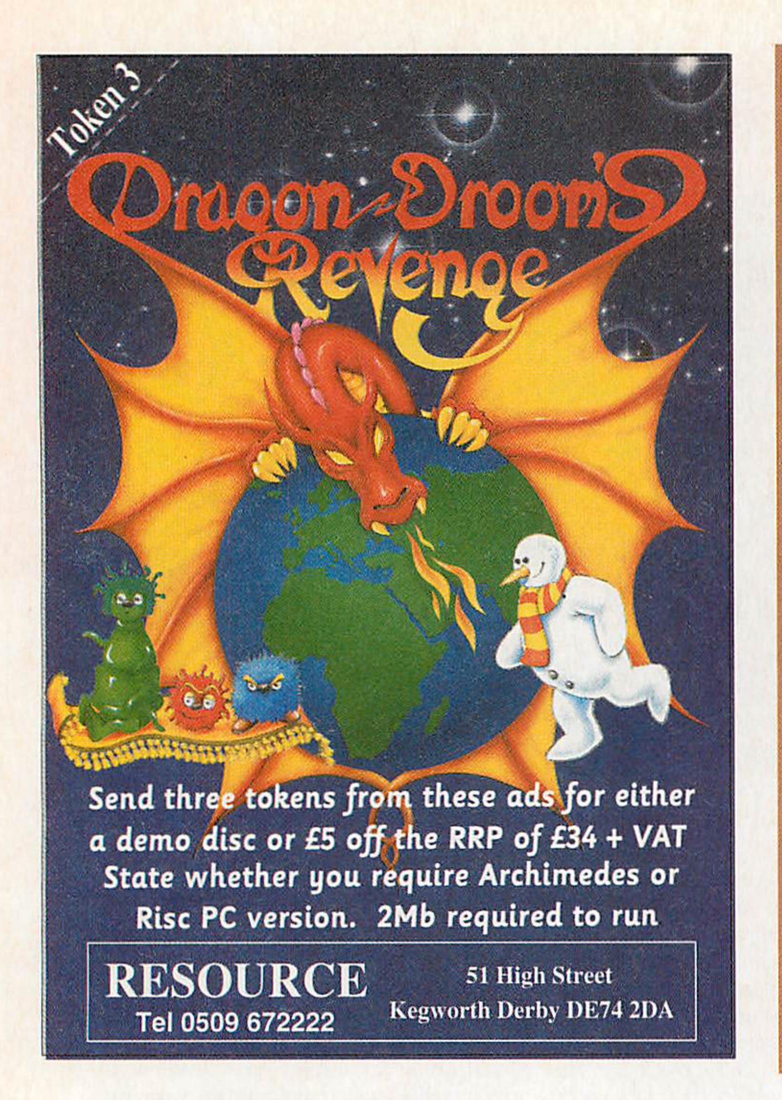
To conclude, having a TV tuner and teletext for your computer is good fun, and with a bit of programming it can be made into a very useful source of information. Design IT is completing its network server software and a new card which has Nicam stereo sound capability is to be released soon, priced £230 + VAT. A version without teletext will cost £175 + VAT. AU

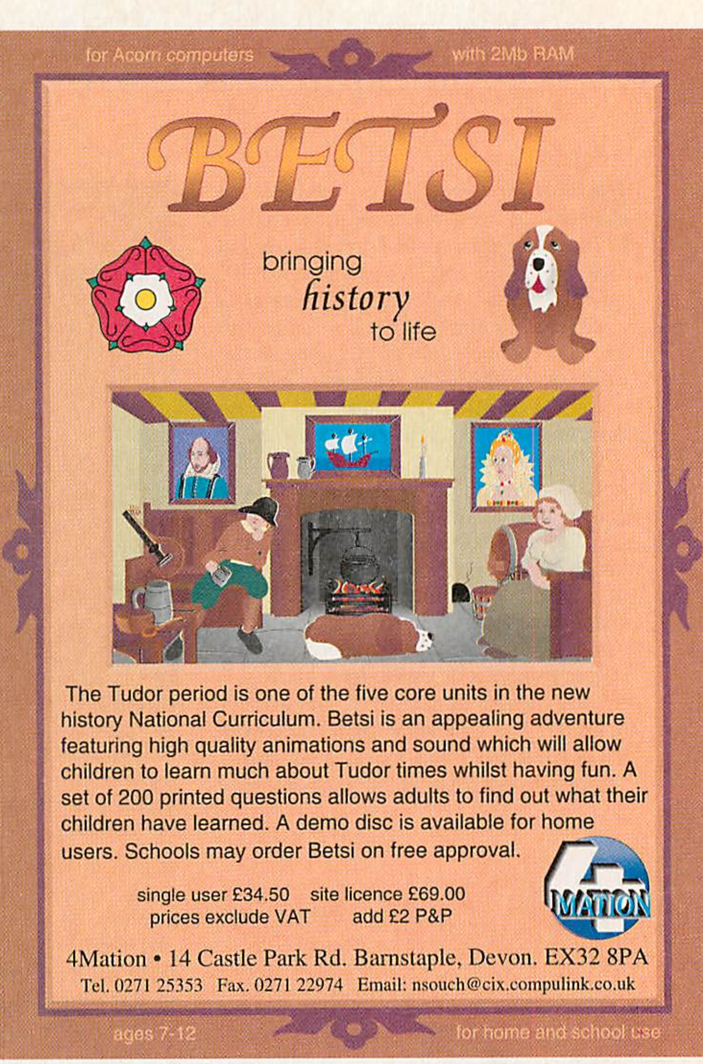
Product details

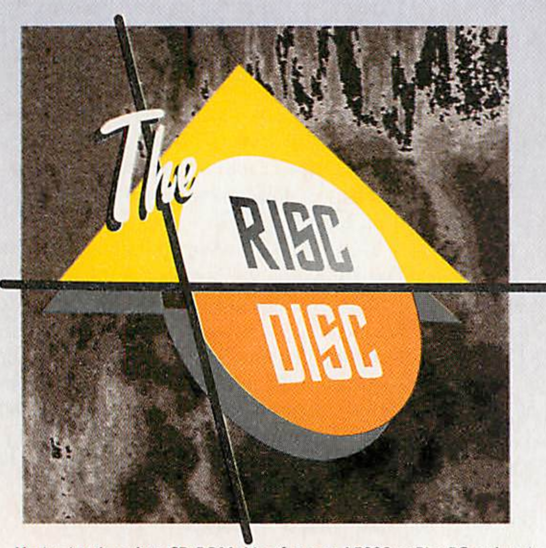
Product: TV Tuner/Teletext card
Suppliers: Design IT/Computer Concepts
Tel: Design IT (01902) 894775, Computer Concepts (01442) 63933
Fax: Design IT (01902) 894775, Computer Concepts (01442) 231632
Prices: TV Tuner: £89 + VAT, TV Tuner plus Teletext: £169 + VAT

Pros: Teletext on a RISC OS window • Programmable

Cons: Needs a strong signal







You've just bought a CD-ROM drive for your A5000 or Risc PC and can't decide which CD to buy. Easy! For only £19.95 The RISC DISC has to be the choice. With Utilities, Sample Software and Demos, you can't lose!

Contains

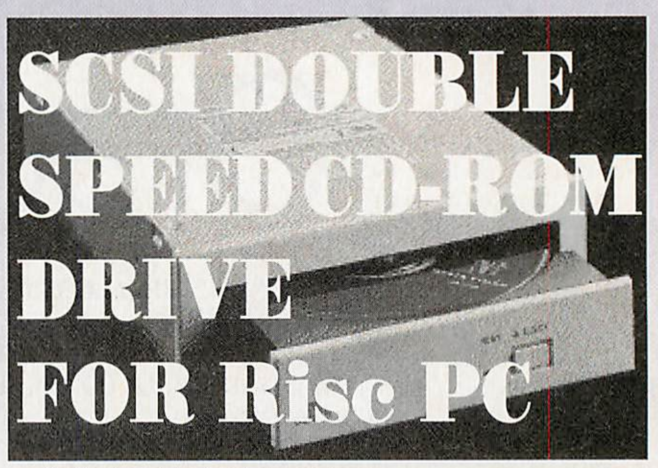
Risc PC Utilities
Acorn Replay Movies
Photo-CD images
Programming Utilities including -
C++, Pascal and Ada compilers with Libraries
DTP Utilities including ready to run TeX installation
Postscript previewer and conversion utilities
Disc Utilities for organising, analysing and fixing your hard discs and CD-ROM's
Desktop Utilities
JPEG images
Archive Magazine Vol. 7
Artworks Files
Drawfiles
AVI, FLI and MPEG players
MPEG Movies
and much more.

includes demonstration software from

10-10 Educational Systems
4-Mation
A.C.P
Acorn
Anglia Television
Apricote
Arachne
Archive Magazine
AVP
Beebug
Christopher Jarman
Circle Software
Clares
Computer Concepts
DEC_dATA
Educational & Multi-Media Associates
Emerald Publishing
Gamesware
HS Software
ILP / Academy Television
Iriam Instruments
Krisalis
Le Computer
Lindis
Longman Logotron
MEU Cymru
Norwich Computer Services
Oak Solutions
Pineapple
Sherston
Uniqueway
Wyddfa Software

MULTIMEDIA CD-ROM **£16.98** exc VAT

RISC PC



- Vertical and horizontal mounting
- Multisession Photo-CD
- Average access time of 350 mS
- 256KB buffer
- Tray loading
- Data transfer rate of 300 KB/s

(Requires CDFS 2.2 or greater)

£160 exc VAT

Uniqueway Ltd
42 Crwys Road, Cardiff, CF2 4NN
Tel 01222-644611 Fax 01222-644622
E-mail sales@uniqway.demon.co.uk

FREE RISC DISC CD with every CD-ROM drive

We also stock Syquest 270Mb removable drives only £399 inc VAT and 1 cartridge!

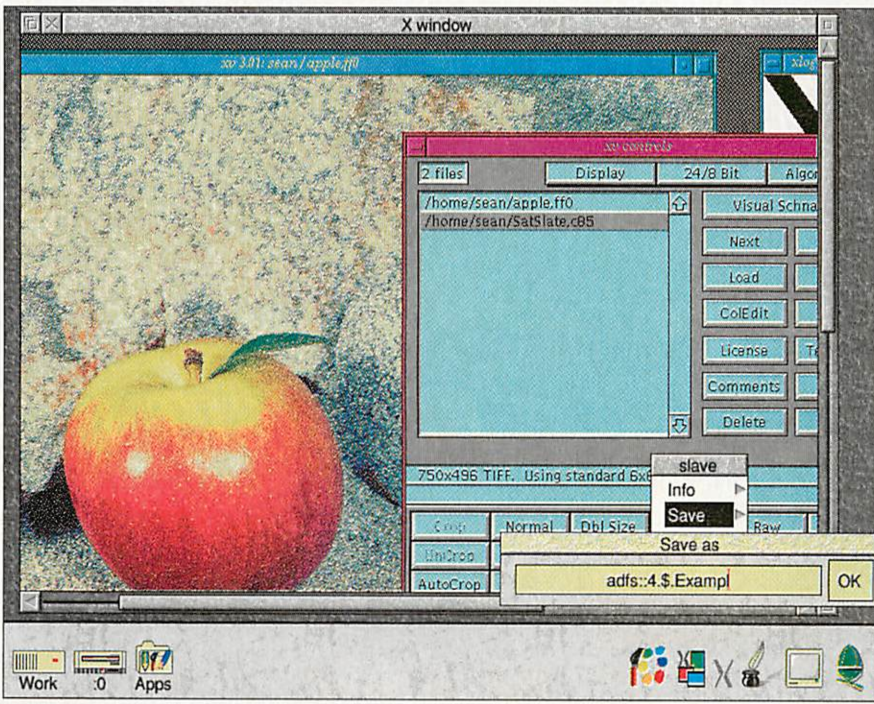
X-rated software

Sean Sollé takes a look at the latest version of Gnome Computers' X-Windows server for the Archimedes.

Ever wished you could have a desktop many times bigger than your screen? Or that you could still use other applications while one is busily hourglassing? Well, those are just a couple of features that Gnome Computers' *X-Windows* server gives you – almost.

To actually use them, you first need to connect to another computer running UNIX. UNIX may conjure up images of a decade-old operating system used by bearded gurus with computer science PhDs, muttering things like 'fgrep foo bar pipe lpt -calvin', but that's only half the story. In much the same way that Acorn's desktop runs on top of RISC OS, and Microsoft Windows hides MS-DOS, *X* (version 11, revision 4) provides a windowing environment for UNIX.

What makes *X* different is that despite needing a monitor, mouse and keyboard, you don't necessarily have to connect them to the computer that's actually running the applications. Instead, *X* can send requests to a completely different computer, which paints fonts, plots graphics and moves windows around. Referred to as an X-server or an X-terminal, this machine could be another UNIX system, or with Gnome's software, an Archimedes.



X-Server at work.

First, find your UNIX system

In practice, you'll have to find a UNIX box to connect to, which means being able to talk internet protocol. If you use Acorn's original ethernet network with an NFS fileserver, you're already there. If you're using a RISC OS fileserver (e.g. Access, Level 4), you can still connect a UNIX box – a cheap PC running the public-domain *Linux* was used for this review. A third option is to use a fast modem to dial up an internet provider, and use SLIP (serial link internet protocol), but be prepared to run up huge phone bills.

On running Gnome's software, an 'X' appears on the icon bar. Editable menu fields are used to specify what computer to connect to, and what type of screen display to use.

This is rather too much like typing at the command line, allowing contradictory options to be entered. Mistakes often result in a screenful of confusing textual errors. It's ironic, given the purpose of the program, that a proper graphic user interface isn't used.

Once a connection is made, it is represented on the icon bar with a second, more colourful, icon. Clicking on this icon opens a window with *X*'s standard login page, and the immediate reaction is to type in a username and password. However, selecting the window causes it to take over the whole screen, and only then will it accept input.

What you see once you've logged on depends on what version of *X* your host is running, and how it's been configured. If you've ever used *X* before, you'll be right at home – otherwise Gnome's manual points the reader at several books for a comprehensive introduction.

X and RISC OS

Using a Risc PC with its dedicated ethernet card, screen response seemed as fast as using RISC OS locally. Because all of the processing is done remotely, the ARM can put all its effort into transferring data over the network and updating the screen. Running *xmosaic* – a WWW browser which uses a spinning globe to indicate network activity – showed that the system could provide smooth animation. Using *fvwm*, a virtual window manager, the screen appears as part of a much larger desktop, allowing windows to move over an edge, and onto the next screenfull. The speed of redraw made this quite usable, and clicking in *fvwm*'s control window resulted in quick switching from one part of the desktop to another.

Pressing the Break key twice in quick succession switched back to RISC OS, the *X* display being updated at a slower rate in the window.

It's possible to save the *X* screen as a sprite, but instead of dragging an icon to a filer window, the complete pathname must be typed into an editable field. What's more, the menu can only be reached from the icon bar, as menuing over the window switches to full screen mode.

Back in RISC OS, the window will only display correctly if the desktop is using the same number of colours as *X*. Differing modes produce weirdly distorted displays, and attempting to re-open the window warns of the mismatch and takes over the whole screen.

Used in full-screen mode, *X-Server* does its job well. The desktop front-end, however, needs a bit of a re-think. AU

Product Details

Product: X-Server 1.20
Author: Gnome Computers Ltd.
Tel: (01480) 406164
E-mail: support@gnome.co.uk
Price: £199 + VAT single user
£1000 + VAT 20-user educational site licence

Pros: Allows Archimedes to behave as an X-server • Fast in full-screen mode

Cons: Poor program user interface

Special Xmas Offer


Stunt Racer 2000 – £34.95


10 Out Of 10 Range – £25.95 Telephone for Details


E-Type 2 – £34.95


Birds Of War – £34.95

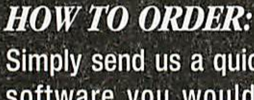


Stunt Racer Extra – £19.95


The Dungeon – £34.95 Requires 2 or more megabytes

BUY 2 GET 1 FREE

For every 2 products which you buy direct from this advertisement you can choose another absolutely FREE. You only pay for the 2 most expensive of your selections and there are no hidden extras.



HOW TO ORDER:

Simply send us a quick letter or give us a ring telling us the software you would like, your computers memory *(i.e. number of Mb)*, your name and address and payment via cheque, postal order or Access / Visa card details. Prices include VAT. Postage and Packing is FREE in the UK. Overseas add £3 per product.

Virtual Golf – £34.95 Requires 2 or more Megabytes


Saloon Cars DELUXE – £34.95 Upgrade for £17.50

BUT HURRY!

THIS OFFER ENDS

31st DECEMBER 1994

Virtual Golf (Augusta) – £19.95


Haunted House – £25.95

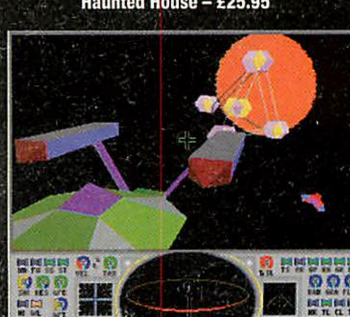
FOR FULL DETAILS OF THESE GAMES, OUR FULL '10 OUT OF 10' EDUCATIONAL RANGE AND OTHER OFFERS – RING NOW FOR OUR CATALOGUE

-∞- IT'S FREE OF CHARGE -∞-

RISC PC Compatibility
Please ring for details

The Fourth Dimension, 1 Percy Street, Sheffield S3 8AU.
Telephone: (0114 2) 769950 or 700661.

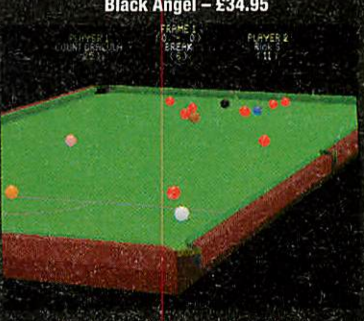

Time Machine – £25.95


Black Angel – £34.95


Enter The Realm – £25.95
Requires 2 or more Megabytes


Pandora's Box – £25.95
Requires 2 or more Megabytes


Chocks Away Compendium – £34.95
Upgrade for £10 – Requires 2 or more Megabytes


Break 147 & Superpool – £34.95

The key to winning

Win a copy of Keystroke 3 from Quantum Software in our Christmas puzzler.

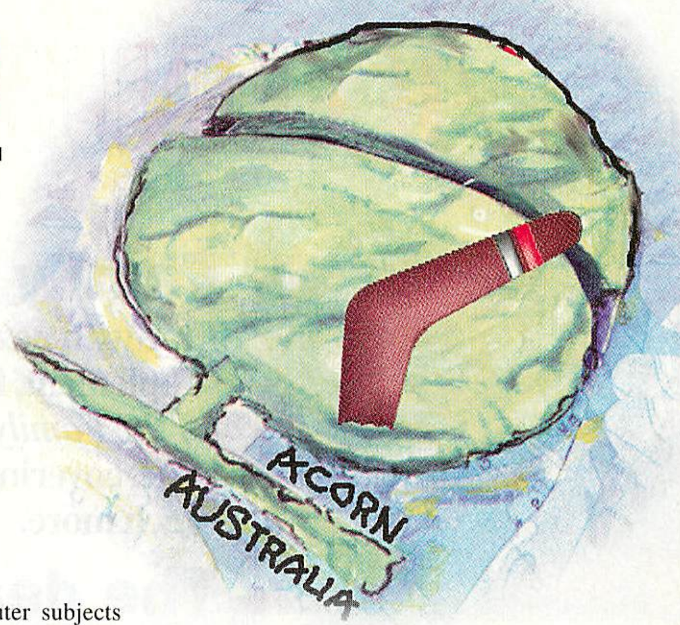
K*eystroke* is Quantum Software's highly-regarded macro-making program. Version 3 has recently been released – see the review on page 87 for details – and we at *Acorn User* have ten copies to give away. To win one, all you have to do is find the *Keystroke*-related words listed below in the grid. The words are spelt out horizontally, vertically and diagonally in the grid, always in straight lines. Some words run from right to left and from bottom to top, and some letters may be used more than once. When you have done this, nine letters will remain unused which will spell out a word describing Quantum Software's role in the Acorn market.

To enter the competition, send the word on a postcard or a sealed envelope to: *Acorn User* Christmas wordsearch, *Acorn User*, IDG Media, Media House, Adlington Park, Macclesfield, SK10 4NP. Entries must be received by 31 January. The editor's decision is final, and no correspondence will be entered into.

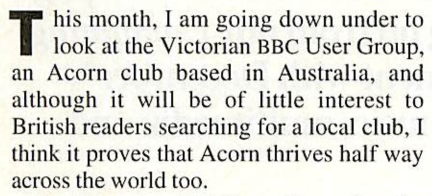
K	C	I	L	C	T	R	L	W	R
E	V	E	N	T	I	M	N	O	A
Y	N	W	O	V	A	B	T	D	B
S	T	R	I	N	G	U	L	N	N
T	I	I	U	M	C	T	A	I	O
R	T	A	L	E	P	T	U	W	T
O	L	A	X	I	C	O	N	T	T
K	E	E	R	E	T	N	E	O	U
E	Q	U	A	N	T	U	M	R	B

ALT
BUTTON
BUTTONBAR
CLICK
CTRL
ENTER
EVENT
EXECUTOR
ICON
KEYSTROKE
MANUAL
MENU
QUANTUM
STRING
TITLE
UTILITY
WIMP
WINDOW

Club Corner



Chris Jackson continues his tour of the Acorn club scene with a visit to our distant friends down under and sees how life in the Acorn world treats them.



This month, I am going down under to look at the Victorian BBC User Group, an Acorn club based in Australia, and although it will be of little interest to British readers searching for a local club, I think it proves that Acorn thrives half way across the world too.

The Victorian BBC Users Group Inc. (or VicBug) was founded in September 1984 by Bruce Leister and Graeme Kitney, and set out to be a club for BBC owners who lived locally.

The late '80s saw the club joining with the BBC in Education User Group, which takes an active part in education using Acorn computers, and they help parents with Acorns to make better use of their systems.

In 1992, the club acquired the patronage of Acorn Australia, which has lifted the financial pressure from them, and Ted Robinson, the President of VicBug, tells me that the staff at Acorn go to no end of trouble for them.

A meeting is held on the last Wednesday of each month starting at 7.35pm and finishing at about 9.30pm on Acorn Australia's premises. At the start of each meeting there is a short formal section for normal business, then you hear from the librarians about what's new in the PD disc library and newsletter.

A guest speaker usually talks about various computer subjects which are of interest to all members, in an instructive yet interesting manner.

Next up is a problem and answer section where experiences are shared; here you will be able to find the answers to most of your computer problems. The meeting ends with hands-on use of the latest software, and chatting to the other members.

The user group runs a late afternoon hands-on training session for teachers to become proficient in many software packages that they might be interested in, even simply to try it out before purchase, and a special section has been set up to cater for teachers who need to learn about software for special needs students.

The club recognises that members are knowledgeable in many areas of computers and, if you want to know something on a particular subject, the president can point you in the direction of someone who will be able to answer your queries. Occasional trips are run by the club, and in the past they have visited a local school which many members were interested in, and the club is are always on the look out for companies to visit.

A monthly newsletter is produced and is posted to other Australian states who copy and distribute it between their members, and I'm told the newsletter is the link pin between the User Groups and has some very interesting information included.

The number of members has steadily grown to over 120, with over 80 enthusiasts and 40 schools regularly attending the meetings, which makes this club the biggest I have looked at up to now.

Ted Robinson, the president of VicBug, says that when large computer companies in England receive mail from them requesting products, they have to wait a long time until it is delivered.

If they could arrange some way of ordering items en masse, they would be able to speed up the delivery, as well as reducing the prices.

If you would like your club to have a hearing on this page, you can contact me on the Digital Databank BBS on (01707) 323531 (8N1, upto 14k4) as user #473, on the internet at cjackson@digibank.demon.co.uk or you can send mail to The Club Page, *Acorn User*, Europress Publications, Europa House, Adlington Park, Macclesfield SK10 4NP. AU

Subscription rates

Below are the prices to join VicBug for a year:

Schools: $50
Ordinary members: $40
Student or pensioner: $30
Country member: $30

The meetings are held at Acorn Computers Australia P/L, 29 Cromwell Street, Collingwood, Melways 2C G12. The club secretary, Mrs Eda Vistac, can be contacted at: 6 Chichester Square, Wantirna 3152.

CD-Circle contact

In my great enthusiasm about CD-Circle, I forgot to include the contact points for them. They can be contacted at CD-Circle, PO Box 332, Bristol, BS99 7XL or by phoning (01272) 799979, and you may be interested to know that they have reduced their pricing scheme.



VICTORIAN BBC USERS GROUP INC.
Acorn BBC & RISC Computers

NEXT MONTH — IN — ACORN USER



Family computing

Free with next month's *Acorn User* is a 36-page supplement, following on from our *Computing for the Family* supplement with December's issue, covering DTP, music, multimedia and much more.

The death of MPEG?

Is real-time decompression of MPEG video possible without buying a hardware card? We take a look at the latest developments.

Massive networks

We report from the site of the biggest Acorn network installation in the country, and look at how networks are designed and installed.

BETT preview

It's that time of year when teachers from all over the country home in on Olympia to talk shop – or should that be classroom? Find out in our guide to surviving the BETT '95 show.

Reviews galore

Loads of new products under the spotlight, from complex equation creators to home accounting packages to slide printers.

To be sure of your copy, please fill in the coupon below and hand it to your newsagent. Or why not take out a subscription, which includes a gift pack. See the Subscriber's Page for details.

DEAR NEWSAGENT, PLEASE ORDER MY REGULAR COPY OF ACORN USER

YOUR NAME ______________________

ADDRESS ______________________

____

____

Acorn User is published by IDG Media Ltd, Media House, Adlington Park, Macclesfield, SK10 4NP
Distributed by COMAG (0895) 444055

NEXT ISSUE
ON SALE 29 DECEMBER
DON'T MISS your issue of Acorn User

Communications

USR Sportster FaxModem bundle — **£215**
14,400 modem, ARCterm, ARCfax 1.10 & cable.

MultiTech ZDX FaxModem bundle — **£235**
19,200 modem, ARCterm, ARCfax 1.10 & cable.

USR Dual Standard (V.Fast/V.34) bundle — **£475**
28,800 modem, ARCterm, ARCfax 1.10, cable & high performance dual serial card.

High performance dual serial card — **£79**
Up to 230Kbps on two FIFO'd ports.
If bought with a modem bundle, £69.

ARCterm 7 (with free modem cable) — **£68**
Our highly acclaimed comms package.

ARCbbs — **£85**

SCSI Storage Systems

Fujitsu 264Mb, 2yr gtee — **£209**
Fujitsu 353Mb, 2yr gtee — **£235**
Fujitsu 532Mb, 2yr gtee New 1" high model **£325**
Fujitsu 1092Mb, 5yr gtee — **£549**
Fujitsu 230Mb MagOpt (with disk & sw) — **£649**

All drives include A3/4/500 internal mounting hardware & cables (specify machine and interface).
External box (fan/psu) £75. Morley 16-bit SCSI £149.

5% Discount to education. Delivery on large items £10+VAT
Please add VAT at 17.5% to all prices. Plastic welcome.

THE SERIAL PORT

Our shop in Wells is at
15 Union Street
(Union Street is next to Dixons)

The Serial Port
Burcott Manor, Wells,
Somerset, BA5 1NH

sales@cryton.demon.co.uk

Telephone	**(0749) 670058**
Fax	**(0749) 670809**
Modem	**(0749) 670030**
ISDN (Sonix TA)	**(0749) 670883**

Risc PC 600

★ ★ ★ *See panels below!* ★ ★ ★

		Inc VAT	Ex VAT
ACB15	Risc PC 600 2Mb/HD210	1420.00	1208.51
	With 17" Monitor	1890.00	1608.51
ACB25	Risc PC 600 5Mb/HD210	1580.00	1344.68
	With 17" Monitor	2050.00	1744.68
ACB45	Risc PC 600 9Mb/HD420	1925.00	1638.30
	With 17" Monitor	2395.00	2038.30

Risc PCs without monitor available in some circumstances. Contact us for details. Above systems include 1 year's on-site maintenance at no extra charge.

Peripherals and Add-Ons:
Econet - Ethernet - VRAM Upgrade - PC Card

Cumana 300i Internal IDE CD ROM Drive	225.00	191.49
Cumana 300iA Internal IDE CD ROM Bundle	285.00	242.55

★ MODEM Deals - Whilst Stocks Last! ★

Sportster 14,400 (v32bis, fax) **£155**
It's here! **- Courier v34 Fax with v32bis, etc.** ..... ★★★ **£465**
Pace Microlin fx32+ Portable (v32bis, fax) **£195**
Includes **free** *cable (ARC or PC type). Special prices on comms software.*

Business Users

Lease a Risc PC from as little as £45* + VAT per month!

** Guide price - exact price depends upon status. Contact us for details.*

Paying by Cash/Cheque?

If you pay by cash, cheque, banker's draft, building society cheque, Delta etc. you may deduct the following further VAT inclusive discounts.

2Mb/HD210 Systems **£45**
5Mb/HD210 Systems **£55**
9Mb/HD420 Systems **£60**

★ Acorn's new Pocket Book 2 ★

Pocket Book II (256k) **£255.00**
Pocket Book II (512k) **£315.00**
Full range of add-ons and accessories - please call.

Acorn World Offers!!

OK, we might not have taken a stand at the Acorn World show this year but rest assured that when dealing with SENLAC you get the very best in service, support and prices **all** year round.

It's impossible to list all our range in an advert this size so...
If you don't see what you want, CALL US or e-mail us on sales@senlac.demon.co.uk

24 hrs. phone/fax. We accept cash, cheques, Access, Mastercard, Visa and Delta.

Serious(?) Software

Accounts		***Databases***	
Prophet	168.00	Data Power	145.00
Personal Accounts v3	43.00	S-Base 2 Personal	140.00
Art/Graphics		Squirrel 2	160.00
Artworks **v1.5**	145.00	***Design***	
DA's Picture	**110.00**	ArchiTech	193.00
ImageFS	**34.95**	***DTP/WP***	
PhotoDesk	**180.00**	**Impression Publisher**	**145.00**
PhotoTouch	**75.00**	**Impression Style**	**88.00**
ProArtisan 24	**160.00**	***Peripherals***	
Studio24 (Pineapple)	**128.00**	Eagle M2 Multimedia Card	360.00

★ MUSIC Bundles! ★

"The Composer" **£650**
Includes an SSES1600, Sibelius 6, PC150 MIDI Controller Keyboard a pair of Goodmans Active85 shielded speakers and all leads.
"The Performer" **£575**
As above but with Clare's Serenade sequencer instead of Sibelius 6
A3xxx/A4000 versions of these bundles .... ***deduct £100***

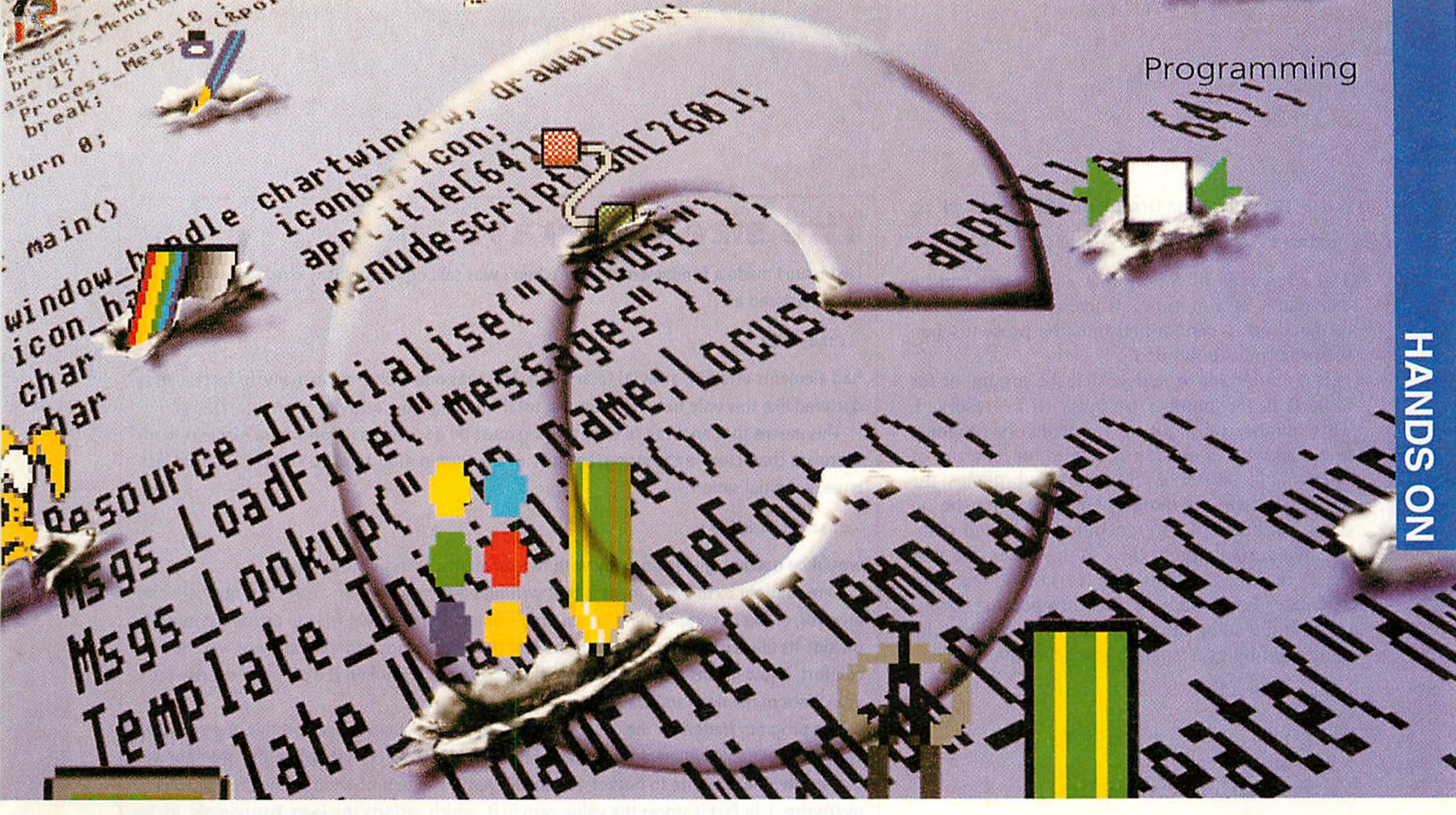
Communications		ScanLight Video 256	230.00
ArcFax v1.12	33.00	Vision 24 Digitiser (internal)	115.00
ArcTerm 7	68.50	***Personal***	
Hearsay 2	76.95	Almanac 3	75.00

GAMES!

Aries	24.50	**Magnetoids**	**24.00**
Battle Chess	24.50	Populous	25.25
Black Angel	29.25	**Premier Manager**	**24.50**
Chaos Engine	**23.00**	Real McCoy 1 or 2	24.95
Crystal Maze	36.50	Real McCoy 3 or 4	29.25
Diggers	**27.95**	RoboCod - James Pond **2+**	24.50
Dungeon	29.25	**Scrabble**	**24.95**
Flashback	**24.95**	**Sensible Soccer**	**23.00**
Haunted House	21.50	Sim City	28.00
Heimdall	23.50	Simon the Sorcerer	35.95
Hero Quest	25.25	**Speedball 2**	**23.00**
Krisalis Collection	24.95	Stunt Racer 2000	29.25
Lemmings 2	25.50	Virtual Golf	29.00
Lotus Turbo Ch. 2	21.75	Warlocks	26.75
Magic Pockets	**23.00**	Zool	23.00

SENLAC
Computing Limited
(AU1394)
PO Box 304
BRIGHTON BN1 1LE
Tel (01273) 208074
Fax (01273) 738258

Prices include VAT, Postage and Packing. PO Cash on Delivery: add £8.00 for orders up to £500. Errors & Omissions Excepted (E&OE)



JACK KREINDLER

C for yourself

David Matthewman continues to look at pointers and arrays in C, showing how they can be initialised.

First, a quick recap: last month in this column, I introduced two new operators in the C language, * and &. The & operator is the address operator and gives the address of or a pointer to whatever it operates upon.

The * operator should be familiar to anyone who has used indirection operators such as ? and ! in BASIC; it is the C indirection or dereferencing operator and means 'the object pointed to by'. Unlike BASIC, where the indirection operators take integer operands, the * operator in C only operates on pointers. Constructions such as:

```
int i,j;
...
i = *j;
```

are not legal, because j has been defined as an integer, not a pointer. Pointers are declared by using the * operator in the declaration, so the following construction is OK:

```
int i;
int *j;
...
i = *j;
```

The second line declares j to have type 'pointer to int'. All pointers in C point to a specific type of variable. Having declared i in the program fragment above I would not be able to use it to point to a floating point number or a character, since I have specifically declared it to point to an integer. The exception to this is a type 'pointer to void' which we will encounter later.

The malloc() function

Note that the above program fragment as it stands would cause an error. I have declared j but I have not initialised it, that is to say given it anything to point to. I can do this by explicitly assigning the address of a variable to it, so:

```
int i;
int *j;
j = &i;
i = *j;
```

would be a legal if pointless example.

However, as I said last issue, pointers and arrays are equivalent. The name of an array is simply a pointer to the first element in the array, and has type 'pointer to whatever type the array had'. By symmetry, if we declare a variable to have type 'pointer to int' we should be able to arrange for it to point to a block of memory and to access that block as an array.

The function that C uses to allocate blocks of memory is called malloc(). It is declared in the C header file *stdlib.h*, so any program which uses it must have the line:

```
#include <stdlib.h>
```

near the start. The malloc() function to allocate a block of memory no_of_bytes in size and set

pointer to point at the first element in the block is:

```
pointer = malloc(no_of_bytes);
```

The advantage of this is that no_of_bytes can be calculated at run time, whereas the size of a declared array cannot and must be present when the program is compiled.

It is important to realise that the argument for malloc() is the number of *bytes* to be reserved. This number may not be immediately obvious; how many bytes must be reserved for an array of integers, for instance? On the Archimedes the answer is four per integer, but it may not be on other machines. As we encounter new and complicated variable types later in the series, we will meet variables whose size is not so easy to calculate. Fortunately, C has an operator sizeof() to do this automatically; sizeof(type) gives the number of bytes needed to store the given type.

```
int array[10];
```

and

```
int *array;
array = malloc(10*sizeof(int));
```

are equivalent declarations of array. Both methods have their advantages, and should be used appropriately. Declaring an array with a size in brackets means that you need to know what size the array will be before the program starts. On the other hand, the declaration reserves memory for the array, and it can be used immediately. Declaring array as a pointer means that the size of the array can be calculated at run time but that we *must* remember to initialise the array with a malloc().

Character arrays again

Looking again at character arrays – the C equivalent of strings – they are a prime candidate for being sized at run-time. The discussion about pointers was started last issue by the observation that it was wasteful to make all character arrays large enough to hold the largest strings that they could be expected to hold, as most will in fact hold much shorter strings.

Photographer Kate is writing a program to hold various items of information about the photographs on a roll of film. One piece of information that she wishes to hold is the name of the place where the photograph was taken. Originally she did this by declaring an array:

```
char place[40][100];
```

recognising that this was not ideal, as the majority of the 4000 bytes that this would take up would be wasted on descriptions like 'Graffiti in Berlin'.

Instead of this, Kate uses an array of pointers, declared:

```
char *place[40]
```

This is an array of 40 pointers, and differs subtly from the array declared before. The first occupies 4K of continuous memory while the second occupies a much smaller block of memory, enough to hold 40 pointers, which on the Archimedes will each be four bytes long. Each of these pointers will eventually point to an area of memory containing a string, but these areas will not necessarily be continuous, or even in order. To the programmer, two-dimensional arrays and arrays of pointers normally appear identical, but they are held differently in memory.

One other advantage of this approach is that if Kate only uses a 24-exposure film, she only needs to allocate space for 24 strings, whereas all 40 were allocated before, whether or not they were used.

Of course, before each pointer in the array can be used it must be initialised with a malloc(), but now this need only be done when the pointer is actually needed. Furthermore, the appropriate size of memory can be allocated for the string being stored. Both of these save on memory. Each pointer is allocated separately by a series of statements like:

```
place[i] = malloc(string_size);
```

The story so far

Arrays in C are declared by putting a number in square brackets after a variable when declaring it; the number gives the number of elements in the array, which start from zero. The type of each element in the array is the type used when declaring the array. Arrays can be multi-dimensional, with the higher dimensions being accessed by further numbers in square brackets after the variable.

The array's name is also a pointer to the first element in the array. Pointers also have a particular type, and can be declared by prefixing the variable being declared with a *. When declared in this way they must be initialised, either by equating them to another pointer – or a variable prefixed by an & which gives the address of the variable – or by using malloc(). Strings in C are represented by character arrays. Coming next issue: indexing pointers like arrays. AU

The size of arrays

Last issue I made a fundamental error when I was talking about array size. I said that an array declared as:

```
array[n];
```

had elements array[0], array[1] to array[n]. This was one element too many; in fact an array declared like this only has n elements in total, running from array[0] to array[n-1].

This means that an array to hold a string must be declared with one more element than there are characters in the string, because of the terminating zero. To store 'RISC' as in last issue, an initialisation:

```
char string[5];
```

would be needed, giving an array with five elements: string[0] to string[4].

One subtlety to this argument is that writing past the end of an array does not generate an error, either at compile time or run time – unless the program tries to access memory outside its allowed range. However, the fact that it does not generate an error is of no comfort, it just means that the first you find out about it is when the program overwrites a vital piece of memory and crashes.

The program *HangIt* on the cover disc illustrates this. When I compiled this, the compiler stored the variable i in memory immediately after the array bucket. When the program is run, it attempts to write to bucket[10], the eleventh element of a ten element array. This overwrites i, in fact it stores the value zero in it, which restarts the loop. Fortunately, in this case, the program can be stopped by pressing Escape, but the effects of writing off the end of arrays are usually harder to recover from, and produce intermittent and puzzling errors.

Incidentally, the ability of *HangIt* to crash the machine is dependent on how it is compiled. If i is stored *before* bucket, the loop exits normally, although whatever *is* stored after the array is overwritten.

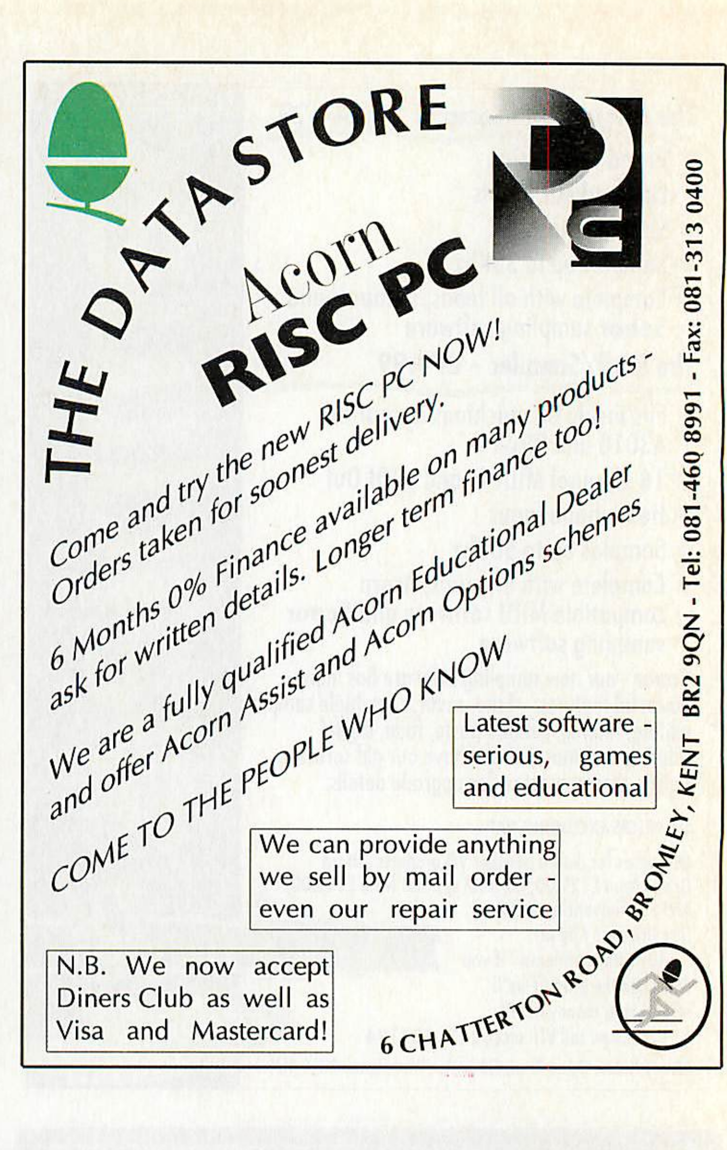
On the disc

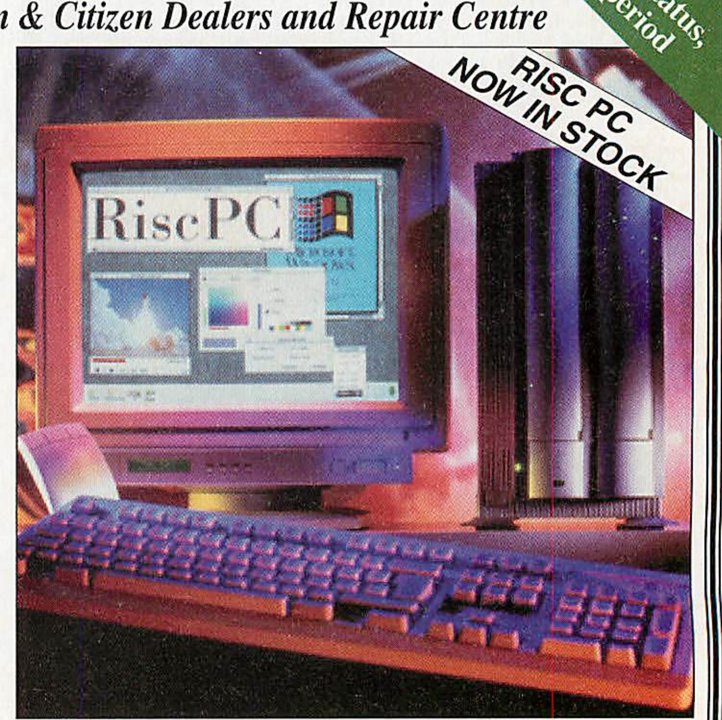
Apart from the *HangIt* program mentioned above, the cover disc also contains *Kate2*. This is the improved version of the photo database where each text string is allocated just the storage that it needs.

The program reads a string from the keyboard using the scanf() function. This string has been allocated 256 bytes of storage, which allows for a larger maximum place description than before. However, *Kate2* then uses the strlen() function to find the actual length of the string typed in, and allocates that amount of memory to the pointer in the place array. It then uses the strcpy() function to copy the input string to the area of memory pointed to by the array element.

As usual, the source code for the programs is in the C subdirectory of the archive, with the compiled and linked program in the root directory, for readers who do not have a C compiler.







PART EXCHANGE SCHEME AVAILABLE

Questions & answers

SCSI 2 cards, the | and ¦ characters, upgrading a low-spec machine and interactive help.

Q I have recently purchased a brand new Risc PC and wish to expand it in the best possible way. The first way in which I would like to do this is with a SCSI card. Therefore, I have a few questions:

- Would all SCSI 1 devices work with a SCSI 2 card?
- If yes, then would a SCSI 2 card be my best bet?
- If so, then which SCSI 2 card should I get to take best advantage of the Risc PC expansion slots?
- If not, then which SCSI 1 card should I get?

Andrew Done
Bedford

A The answer to your first question is the same as the answer to the question 'Would all SCSI 1 devices work with a SCSI 1 card?' which is: 'Yes, in theory.' In practice this doesn't always work – some SCSI devices have trouble talking to some SCSI cards.

The best thing to do is to contact both the manufacturers of the SCSI card and of the device you are trying to connect, to see if either of them know of any compatibility problems.

We can say from our own experience that the Cumana SCSI 2 card connects to all the SCSI devices that we have tried it with, including hard discs, Syquest drives and scanners. Cumana's card is the only SCSI 2 card available for the Archimedes at the moment, which probably answers your 'which card should I buy?' question.

There are two flavours of SCSI 2, 'fast' SCSI 2 and 'wide' SCSI 2. Fast SCSI 2 works over a standard 8-bit SCSI bus with a higher data transfer rate, while wide SCSI 2 operates over a 16-bit SCSI bus. The Cumana card is a fast SCSI 2 card, not least because the cables for wide SCSI 2 cost upwards of £100.

As well as working with SCSI 1 devices, Cumana's card works with the wide range of SCSI 2 devices that are available for the Archimedes, including many CD-ROM drives. Up until now, these devices have been operating as SCSI 1 devices, but many are SCSI 2-compatible.

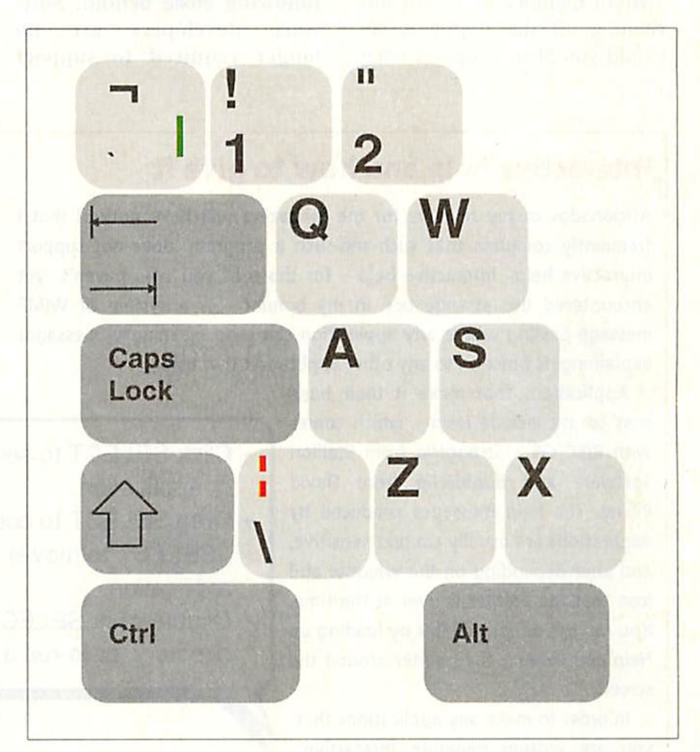
By virtue of being a new card, the SCSI 2 expansion card from Cumana takes full advantage of the DEBI expansion slots in the Risc PC, which offer 32-bit data transfer and Direct Memory Access (DMA). The card will still work in older machines, though without these advantages, and it does need RISC OS 3.1 or higher to work.

Older SCSI cards do seem to work in the Risc PC with no trouble, though it is best to make sure that you have the latest version of any SCSI software. They will not be able to take advantage of DMA or 32-bit data transfer, of course, having been designed exclusively for the older-style podule interface.

Q I have been trying to 'comment out' lines in my boot sequence, but without success. In the files provided with the Risc PC, some lines in the sequence are commented out with a | character (solid vertical line). However, when I try to get this character on my keyboard, I get any of three characters: ` (backwards apostrophe), ¬ (funny corner thingy) or ¦ (broken vertical line).

I can only assume that the last one is the character I was after, but it is clearly not the comment character. I can generate the character that I am after in *Chars*, but I suspect there must be an easier way. Can you tell me how to generate the solid vertical line on my keyboard, please?

Tony Shields
Redditch



The layout of the keys on the left of a standard Risc PC keyboard. The character highlighted in red produces the standard single vertical line which is used among other things to comment out obey files, but which looks suspiciously like the character highlighted in green. This is obtained by pressing the key highlighted in green while holding down Alt, and is a broken vertical line, not unlike the character in red.

A Acorn has set a trap for the unwary in the keyboard for the Risc PC. The key that you are after is on the bottom left of the keyboard, between Shift and Z. Shift-\ generates the solid vertical line.

Now, the keen eyed-among you will have spotted that this key is labelled with a broken vertical line, a character which is actually

produced by the key labelled with a solid vertical line. So, the key labelled | produces a ¦ and the key labelled ¦ produces a |.

Why is this? No other Acorn keyboard has this eccentricity. This remains one of the many unsolved mysteries of the Acorn computer. However, it should be remembered that the key layout on the Risc PC keyboard is the same as for an IBM PC, which may go some way towards explaining it.

Q My A310 is in serious need of an upgrade. It is still running on RISC OS 2 and 1Mb of memory, and I am still running off the floppy drive. Could you please suggest what I should buy first,

Malcolm Hodge
Leicester

A Upgrading the A310 is not easy; more memory requires a new MEMC chip to be fitted, a hard disc – or just about any expansion card – needs a backplane, and RISC OS 3 needs some extra large ROM sockets. Fortunately, many memory upgrades come with large ROM sockets built in, and you may find some suppliers will do a bundle of a memory upgrade with RISC OS 3.

Memory and RISC OS 3 are probably the most important upgrades, with a hard disc following close behind. Software developers are no longer required to support RISC OS 2 and programs will increasingly not run on the older operating system. At the show, Acorn was selling off RISC OS 3 upgrades cheaply – around £30 – and some may still be available.

Memory used to be hugely expensive, but has come down in price over the past couple of years, and an upgrade of at least two and probably four megabytes would be recommended.

A hard disc is probably next on the list, and with the A310, this needs a backplane and fan to be fitted; an IFEL four layer backplane is recommended, and is probably the only one you'll be able to buy in any case. As to whether to buy a SCSI or an IDE hard disc, IDE is slightly cheaper, but SCSI is more expandable if you want to add extras like scanners, CD-ROM drives and external hard discs. Unfortunately you will not be able to use a SCSI adaptor which plugs into the printer port, as marketed by Atomwide, because your printer port is not bi-directional.

Another upgrade that you might consider is an ARM3 upgrade. This will make your computer run faster and, while very few programs *require* an ARM3, most are much more usable with one. The Floating Point Accelerator chip is also worth considering, although many programs don't use it. AU

Interactive help and how to give it

Aficionados of my reviews for the magazine will have noticed that I frequently complain that such-and-such a program 'does not support interactive help.' Interactive help – for those of you who haven't yet encountered this strange bee in my bonnet – is a system of WIMP message-passing where any application can send meaningful messages explaining its function to any other application that asks.

Applications that make it their business to ask include *Help* – which comes with RISC OS – *StrongHlp* from Stallion Software and *BubbleHlp* from David Pilling. The help messages produced by applications are usually context sensitive, and alter depending on the window and icon that the pointer is over at the time. You can get an idea of this by loading up *Help* and moving the pointer around the screen.

In order to make any applications that you are writing generate interactive help messages, you need to respond to the WIMP message number &502 (Message_HelpRequest). Your application should already be responding to number zero (Message_Quit), so this should not be a problem. The block passed in R1 in this case contains the following:

- block!0: the length of the block
- block!4: the task handle of the help application sending the message
- block!8: a reference number for replies
- block!12: zero – probably – but not relevant
- block!16: the message number (&502)
- block!20: mouse x coordinate
- block!24: mouse y coordinate
- block!28: mouse button state
- block!32: window handle
- block!36: icon handle

The standard behaviour for most applications is to use the window and icon handles to work out what help text to send, and then send it by doing the following:

- copy the help text – with a zero byte at the end – to block!20
- work out the length of the help text, add one for the zero byte, round up to the nearest four, add 20 and store this – the word-aligned length of the message block – in block!0
- copy the reference in block!8 to block!12
- change the message number in block!16 to &503 (Message_HelpReply)
- execute the SWI Wimp_SendMessage, with R0 set to 17, R1 pointing to the block and R2 containing the handle of the task from block!4

The only complication in all this is working out the appropriate help text to send. In RISC OS 2 this is easier, as the WIMP will only ever request help when the pointer is over either one of your application's windows or the icon bar, in which case the window handle will be -2.

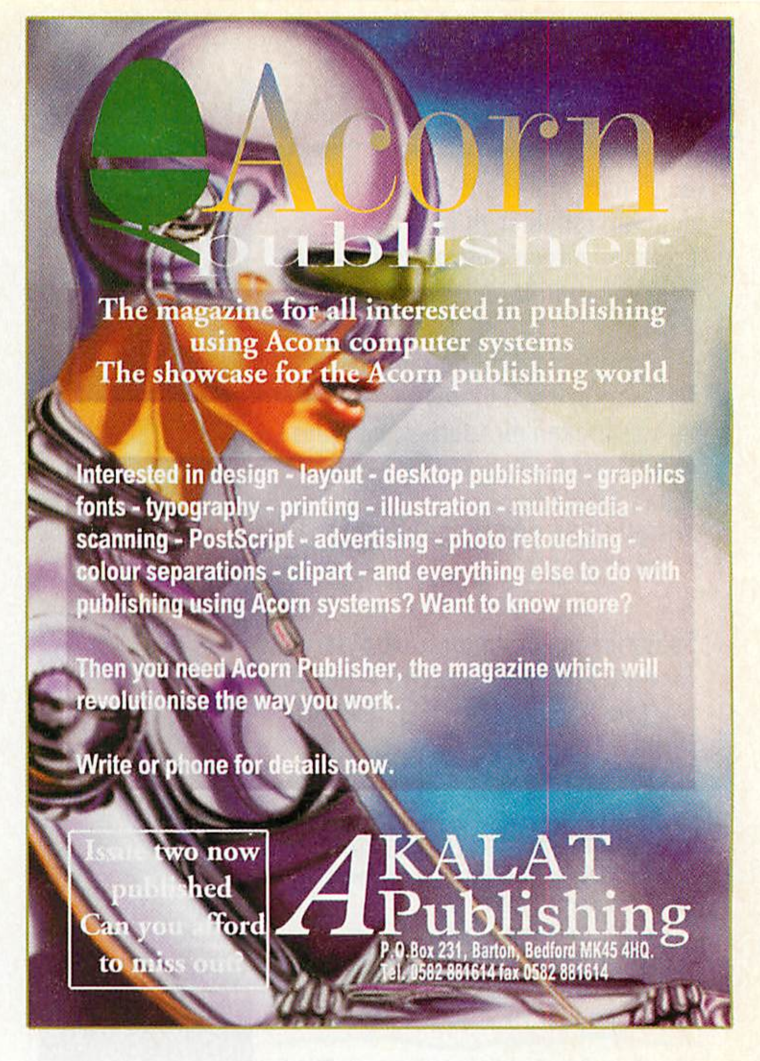
In RISC OS 3 , you will also receive help requests when the pointer is over a menu owned by you, in which case the window handle will be generated pretty much at random. The easiest thing to do is to check the window handle given against all your application's windows – including -2 for the icon bar – and assume that the pointer is over a menu if it doesn't match. At this point you should call the SWI Wimp_GetMenuState with R0 set to one, R1 pointing to a (second) block of memory, R2 containing the window handle and R3 the icon handle. This will copy into the block of memory a list of menu selections identical to that which would be returned by Wimp_Poll with the Menu_Select reason code (9). From this, and knowledge which you should have anyway of which menu is currently open, you will be able to determine the appropriate help text.

The help text can contain any printable characters, including top-bit-set ones. In addition, it can contain the sequence |M – Risc PC owners please note the answer to one of the questions above when trying to get the | character – which is translated by *Help* as a forced line break. Forced line breaks aside, *Help* and similar applications will try to split the text at a white space. The text must also be shorter than 240 bytes to be sent as a WIMP message.

You don't actually have to provide interactive help for every single icon in every single window; in fact, this can even confuse the user. It is worth spending a reasonable amount of time thinking what to put in the help text; given that a user needs help, what aspect of an icon's function is most likely to need explaining?

David Matthewman





PHOTODESK

Whether you want to create original paintings from scratch, or produce eye catching arrangements of existing artwork, Photodesk will open up a whole new world of possibilities for you, boosting your creativity to even greater heights.

Even if you are only interested in preparing simple images for DTP work, then this application will soon prove itself to be invaluable.

However, in no time at all, you would probably find yourself composing exciting new pictures from your favourite images using Photodesk's professional, but easy to use, photo-montage techniques.

Photodesk provides you with the perfect blend of image processing, photo-retouching and creative art-working tools all in one fully RISC OS compliant package.

This guarantees that you will instantly feel at home with the application, which has been carefully designed to harmonise with the rest of your desktop software - by a company with over ten years of experience dedicated solely to the Acorn computer market.





NOW AVAILABLE AT NO EXTRA COST

TWAIN support for direct scanning of 24 bit colour images ■ 24 bit colour printing with built-in colour correction system ■ sophisticated Photo CD overview pac loading ■ unlimited access to RAM on RISC PCs using the new 'dynamic area' facilities provided by RISC OS 3.5 ■ OLE support for direct image linking with Impression.

SEE US AT BETT STAND 424

We welcome you to compare the following selection of features with those from any competing product:

■ Works on **any** Acorn computer fitted with a hard disc and RISC OS 3.1 or higher (needs a minimum of 2MB RAM free) ■ 24 bit colour processing with 8 bit mask ■ 16.7 million true colours displayed on RISC PC ■ High quality dynamic error diffusion in all other screen modes ■ Virtual memory allows an unlimited number of images to be loaded and processed together ■ Handles very large images such as Photo CD base times 16 without difficulty ■ Loads industry standard TIFF, GIF, PBM, JPEG, and Photo CD format images as well as native Sprite, Draw and Clear files ■ RGB or CMY processing in highly optimised ARM assembler code for maximum speed ■ Extensive range of image processing and photo-retouching facilities ■ Realistic simulations of conventional artwork techniques such as airbrushing, painting, drawing, lettering, silk screen and rubber stamp printing ■ Powerful image composition and photo-montage toolkit ■ Special effects such as cloning, image warping, motion blur, smudging and smearing ■ Built-in texture creation and mapping ■ Progressive undo system makes tools operate in reverse for maximum design freedom ■ Pressure sensitive tools when used with suitable graphics tablet ■ Continuous development assured ■

Price £169.95 ex VAT. From spacetech, 21 West Wools, Portland, Dorset DT5 2EA Tel 0305 822753 Fax 0305 860483

Acorn customer hotline

Essential information for all Acorn users, compiled by Dave Walker of Acorn Customer Services exclusively for Acorn User.



Questions and Answers

How do I drive my <printer>?

Depending on your printer, there will either be a Printer Definition File for it in the *Printers* directory, or a driver will exist for a very similar printer (consult the *ReadMe* files in the *Printers. hierarchy for more details), or the option will exist by which your printer can be made to emulate one or more of the more popular models.**

Consult your printer manual to see if it has, for example, an Epson or Hewlett-Packard compatibility mode. For some very recently-released printers, an example being the Epson Stylus Colour, Printer Definition Files have been produced since the last release of *Printers*. These drivers can be obtained from Acorn dealers and ftp.acorn.co.uk.



Discover strange new modes

If you have a Risc PC, you are probably interested in experimenting with Monitor Definition Files (MDFs) in order to generate ultra-high resolution rock-steady displays in millions of colours. Acorn has released *MakeModes*, an application which not only informs you of the validity of any experimental values, but makes experimenting easier by performing the necessary calculations and cross-references required to make sure that valid values are sent to the MDF and from there to the registers in VIDC20.

VIDC20 requires that values passed to it are expressed in terms of pixel rate; that is, the number of pixels per second which VIDC20 needs to pass to the monitor. Some of the VIDC20 registers also require that their contents be divisible by either two or four. Hence, producing a set of mode definition figures which is both compliant with the parameters of the monitor (e.g. horizontal and vertical scan rates in Hz) and compliant with the pixel-rate parametric requirements of VIDC20 is not a simple task; *MakeModes* can perform the conversion automatically, and allow further fine-tuning of parameters within the boundaries imposed.

I hope to be covering the structure of an MDF and the way a video signal is built from its component parts in some greater detail next month; *MakeModes* and its supporting documentation is available via Acorn dealers or by anonymous ftp from ftp.acorn.co.uk and mirror sites.

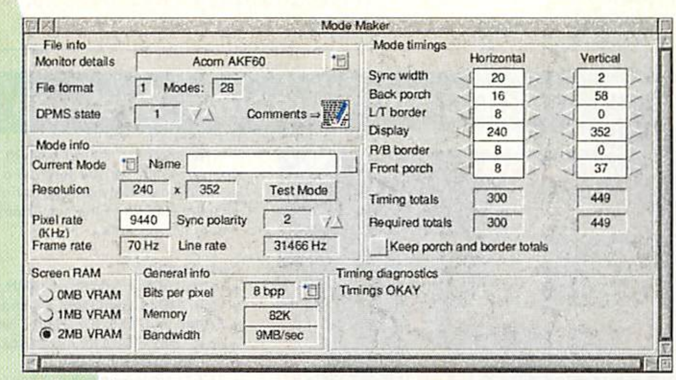
Note: driving a monitor beyond its specification may result in damage to the monitor. Be careful!



Floyd who?

If you've ever wanted to import graphics from other machines to RISC OS, you may be surprised to know that you already have an application to do the job. On the RISC OS 3 support disc (and included in the Risc PC distribution) is *ChangeFSI*; although this strictly stands for 'Change Floyd-Steinberg Integer', *ChangeFSI* can also load files saved in such popular graphic formats as GIF87, JPEG, Aldus TIFF, PBM, Sun Raster and Degas, and save them as RISC OS sprites.

For those of you who are interested, the Floyd-Steinberg system maximises the colour cube from the colours available by performing dithering; for example, a shade of pink could be assembled from an array of pixels coloured red and white (Pink Floyd-Steinberg Integer?).



MakeModes in use.

Full documentation on the package, including some useful background theory and options to further manipulate images and process pictures from the command line in the case of very large images, is contained in *ChangeFSI.FSIInfo*. The latest release version of *ChangeFSI*, version 0.95, forms part of the RISC OS Upgrade Disc 2; this disc is available via Acorn dealers and downloadable from ftp.acorn.co.uk and its mirror sites.



Join the clan

The result of the Acorn Enthusiasts' Scheme was formally unveiled at Acorn World '94, and is now known as Clan Acorn '94. Members receive a pack containing data at a technical level about Acorn's current products, details about forthcoming products and some information about technologies Acorn is experimenting with in our labs. Members also receive a Risc PC lapel pin, a Clan tee shirt, mouse mat and disc full of utilities and technical information, including the ARM Cook Book, Advanced RISC Machine's hints and tips on programming the ARM range of processors.

Over the coming year, members will receive early information about developments from Acorn, new products and technologies. There will be special offers limited to members of the Clan, competitions and further opportunities to meet the people who work at Acorn. Membership is set at a one-time fee of £15, including postage in the UK. As a special offer, applicants can receive the pack plus a limited edition Clan Acorn '94 sweatshirt for just £20.



Upgrades

In order to use the A-Link on the Risc PC, you must be running a copy of *PocketFS* Release 2. Upgrades from Release 1 may be obtained from: Vector Services, 13 Denington Road, Wellingborough, Northamptonshire, NN8 2RL, by returning your original *PocketFS* disc, and a cheque for £9.95 inc VAT and P&P. Cheques should be made payable to 'Acorn Direct.'

Acorn Customer Services
Acorn Computers Ltd
Acorn House, Vision Park, Histon
Cambridge CB4 4AE
E-mail: customer.services@acorn.co.uk

Watford Electronics

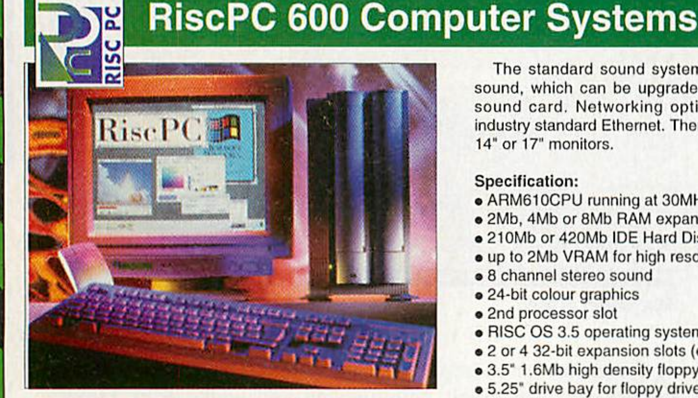
Jessa Group of Companies – Established 1972

Mail Order & Showroom: Jessa House, 1 Finway, Dallow Road, Luton LU1 1TR
Tel: 0582 487777 Fax: 0582 488588

Showroom Only: Jessa House, 250 Lower High Street, Watford WD1 2AN
Tel: 0923 237774 Fax: 0923 233642



RiscPC 600 Computer Systems



The RiscPC from Acorn offers all the traditional strengths of RISC processing, and a great deal more, at a remarkably affordable price. Based on a 30MHz ARM610 processor, the RiscPC simply leaves the competition standing.

It is the world's most cost-effective 32-bit RISC computer. The graphics on the RiscPC are astounding - 24-bit colour (2Mb VRAM required) at resolutions up to 1600 x 1200 pixels. The memory capacity starts at 2Mb and can be expanded to a massive 256Mb. A special slot for a 2nd processor is provided, allowing you to add an additional ARM processor or any other processor, so allowing easy low cost access to DOS and Windows based applications.

The standard sound system offers 8 channel stereo sound, which can be upgraded with the optional 16-bit sound card. Networking options include Econet and industry standard Ethernet. There is also a choice of either 14" or 17" monitors.

Specification:
- ARM610CPU running at 30MHz
- 2Mb, 4Mb or 8Mb RAM expandable to 256Mb
- 210Mb or 420Mb IDE Hard Disc Drive
- up to 2Mb VRAM for high resolution graphics
- 8 channel stereo sound
- 24-bit colour graphics
- 2nd processor slot
- RISC OS 3.5 operating system in ROM
- 2 or 4 32-bit expansion slots (expandable to 8 slots)
- 3.5" 1.6Mb high density floppy disc drive
- 5.25" drive bay for floppy drive or CD ROM drive
- 14" EPA compliant SVGA monitor (AKF60)
- 12 months On-site warranty

RiscPC Upgrade Options

Memory Upgrade Options

ARA0340/U	upgrade from 2Mb to 4Mb RAM	£59.00
ARA0350/U	upgrade from 4Mb to 8Mb RAM	£149.00
ARA0360/U	upgrade from 8Mb to 16Mb RAM	£279.00
ARA0400/U	upgrade from 0Mb to 1Mb VRAM	£109.00
ARA0410/U	upgrade from 1Mb to 2Mb VRAM	£79.00

Hard Disk Upgrade Options

ADA1520/U	upgrade from 210Mb to 420Mb IDE hard drive	£119.00
ADA1530/U	upgrade from 210Mb to 540Mb IDE hard drive	£179.00

Monitor Options

MKA1640/U	upgrade from 14" to 15" Aries 6000 monitor	£99.00
MKA1620/U	upgrade from 14" to 17" Aries 7560 monitor	£299.00
MKA1670/U	upgrade from 14" to 17" Acorn AKF85 monitor	£379.00

Miscellaneous Options

APA0250/U	upgrade to Duel speed CD ROM drive (CAA300)	£179.00

RiscPC 2M HD210
- 2Mb RAM expandable to 256Mb
- 210Mb IDE Hard Disk Drive
- 2 expansion slots
- 14" EPA compliant SVGA monitor

£1249

RiscPC 5M HD210
- 4Mb RAM expandable to 256Mb
- 210Mb IDE Hard Disk Drive
- 1Mb VRAM for enhanced graphics
- 2 expansion slots
- 14" EPA compliant SVGA monitor

£1399

RiscPC 9M HD210
- 8Mb RAM expandable to 256Mb
- 420Mb IDE Hard Disk Drive
- 1Mb VRAM for enhanced graphics
- 4 expansion slots
- 14" EPA compliant SVGA monitor

£1699

Watford Learn & Play Pack

Pack includes: 10/10 English, Number, Spelling, Early + Junior Essentials, Virtual Golf, Dungeon, Break 147, Haunted House and E Type II.

Buy any Acorn Computer, Hard Drive upgrade or CD Rom Drive during December and we will supply the above Pack for only £49.

Multimedia Systems

Enter the world of multimedia with the RiscPC CDi system. Gain access to the massive amounts of data on CD ROM, study the masses of text, pictures and sound all interacting with each other. The ideal tool for educational use.

CDI System Specification:
- Dual speed CD ROM drive
- Aries Stereo Speakers
- 14" Multiscan monitor
- Hutchinson Encyclopedia CD
- Sherlock Holmes CD
- Really Useful v2 CD
- Acorn Video Clip CD

CDIA System Specification:
- Dual speed CD ROM drive
- Audio Mixer
- Aries Stereo Speakers
- Hutchinson Encyclopedia CD
- Sherlock Holmes CD
- Really Useful v2 CD
- Acorn Video Clip CD
- Pro Artisan v2 CD

- 5M CDI System £1579
- 9M CDI System £1849
- 5M CDIA System £1629
- 9M CDIA System £1899

Publishing Systems

One of the main uses of the Acorn RiscPC is Desktop Publishing. Utilising its immense processing power and high quality graphics, you will be able to produce professional quality documents without having to spend a lot of money.
The system comes supplied with the highly acclaimed Artworks graphics package and the powerful Impression Publisher DTP software.

Specification:
- 4Mb or 8Mb RAM expandable to 256Mb
- 1Mb VRAM for enhanced graphics
- Full support for 24-bit graphics – 16.7 million colours
- 14" Multiscan monitor as standard
- Impression Publisher DTP software
- Artworks graphics package

- 5M Publishing System £1579
- 9M Publishing System £1629

Acorn Pocket Book



The truly personal computer. With built-in word processor, spreadsheet, database, spell checker and scientific calculator, it provides all the basic tools for recording ideas, notes and data.

Pocket Book 256K Computer	**£165**
Pocket Book II 256K Computer	**£219**
Pocket Book II 512K Computer	**£269**

Pocket Book Accessories

A-Link	£40.00	Plotter Class Pk	£250.00
Parallel Link	£25.00	128K RAM Disc	£49.00
PC Link	£59.00	256K Flash Disc	£59.00
Mac Link	£65.00	512K Flash Disc	£85.00
Schedule	£16.00	OPL Editor	£59.00
Schedule Class Pk	£160.00	Mains Adaptor	£12.00
Plotter	£25.00		

0% Finance

available on all basic RiscPC systems, A4000 systems and A4 Notebooks. Call 0582 745555 for more details.

Acorn 32-bit RISC Computer Systems

A3010 Christmas Offer

For a limited period we have a number of A3010 computer systems available at very special prices.

A3010 Action Pack

£249

A3010 Early Years Pack

£319

A3010 Learning Curve

£339

FREE Shoulder Bag with every computer purchased this month

Offer whilst stocks last. Above prices do not include monitor



Computer Systems

A3020 2M FD System + AKF52 Monitor	£699
A3020 2M HD System + AKF52 Monitor	£639
A4000 2M HD105 + AKF52 Monitor	£839
A4000 2M HD210 + AKF52 Monitor	£869
A4 4M HD60 Notebook	£1599

Upgrade Options

Upgrade to AKF50 Monitor	£120
Learning Curve Software Pack	£45
Home Office Software Pack	£85

TO ORDER CALL OUR SALES HOTLINE 0582 745555
or FAX YOUR ORDER on 0582 488588

Access VISA



CD-ROM and Multimedia



CUMANA

Oscar CD-ROM Drive

Dual speed CD-ROM drive – connects to parallel port on A3010, A3020, A4 and A5000 computers.

- Oscar CD-ROM drive – parallel £229

CD-ROM Software

- Artworks £129
- Artworks Clip Art CD £18
- British Birds £150
- Castles £40
- Changing Times £125
- Countries of the World £40
- CD – 4 Disc Set £149
- CD Francais £120
- Creepy Crawlies £90
- Daily Telegraph £125
- Dictionary of Living World £175
- Directions 2000 – French £140
- En Marcha – Spanish £140
- Elements – Science series £130
- Frontier 2000CD £125
- Grooves £90
- Hutchinson Encyclopaedia £49
- Illustrated Holy Bible £23
- Illustrated Shakespeare £23
- Image Warehouse £53
- ITN European Atlas £149
- Interactive French Tutor £149
- Interactive Periodic Table £99
- Inventors & inventions £150
- Materials – Science series £130
- Number Games £79
- Pro Artisan v2 £129
- Revelation II £99
- Really Useful CD v2 £47
- Sherlock Holmes £23
- Sherston Naughty Stories £79
- Space Encyclopaedia £57
- Times & Sunday Times £195
- Times Newspaper Sampler £40
- Tekkie CD £99
- Understanding the Body £40

Bravo CD-ROM Drive

Dual speed CD-ROM drive – connects to parallel port or with SLCD interface.

- Bravo CD-ROM drive – parallel £299
- Bravo CD-ROM drive – A3000 £299
- Bravo CD-ROM drive – A5000 £299

Victor CD-ROM Drive

Dual speed SCSI CD-ROM drive, available as a single drive, or dual and quad speed versions with a SCD autochanger. Interface not included.

- Victor 402A CD-ROM drive £299
- Victor 632A CD-ROM drive £399
- Victor 602 - dual speed 6CD A/C £499
- Victor 604 - quad speed 6CD A/C £969

Indigo CD-ROM Drive

The ideal CD-ROM drive for the RiscPC. A dual speed unit that connects to the IDE interface (300i series). SCSI version also available.

- Indigo 300i CD-ROM drive–IDE £199
- Indigo 300iA CD-ROM drive–IDE £249
- Indigo 401 CD-ROM drive–SCSI £199
- Indigo 631 CD-ROM drive–SCSI £299

Accessories

- 8-bit SCSI Interface – A3000 £119
- 16-bit SCSI Interface – A5000 £119
- SCSI-2 Interface–A5000/RiscPC £199
- SCSI Interface cable £15
- SCSI-2 Interface cable £20

Aries Multiscan Monitors



For the ultimate in high definition, flicker-free monitors displaying the sharpest text and graphics look no further than the new Aries range of monitors.

They're safe, easy to use and set up and excellent value for money. All models are low radiation and conform to the Swedish MPR II standard.

The 15" and 17" models are also EPA compliant, ideal for use with RiscPC which supports this type of monitor.

All monitors are supplied with connection cable with 15pin VGA connector. If they are to be used with an older Archimedes, a SVGA VIDC Enhancer and 9pin to 15pin adaptor will be required.

14" A-Scan Pro LR

- 14" non glare tube, 0.20mm dot pitch
- 1024 x 768 resolution @ 60Hz
- 29KHz to 70KHz horizontal frequency
- Microprocessor controls
- Low radiation MPR II standard

£199

15" EnergyPro 6000i

- 15" FST tube 0.20mm dot pitch
- 1280 x 1024 resolution @ 60Hz
- 29KHz to 70KHz horizontal frequency
- Digital controls with LCD display
- Low radiation MPR II standard

£259

17" EnergyPro 7560i

- 15" FST tube 0.20mm dot pitch
- 1280 x 1024 resolution @ 60Hz
- 29KHz to 70KHz horizontal frequency
- Digital controls with LCD display
- Low radiation MPR II standard

£499

25MHz ARM3 Turbo Card



Using the latest surface mount technology on a high quality 4 layer PCB, the ARM3 Turbo Card will increase the speed of your A300, A400 or A3000 computer by up to 6 times.

The upgrade can be fitted by the user in A300 and A400 machines, but for owners of the A3000 we can collect, fit and deliver your computer back for an additional £34.

Owners of A300 and old A440 models will require a MEMC1A upgrade to use the ARM3.

Buy ARM3 Turbo Card and RISC OS 3.1 upgrade for **£167**

Special Offer Price £99

Scan256 Scanner

Scan256 gives you up to 256 grey levels at a maximum resolution of 400dpi and is supplied with state-of-the-art software. This makes it the only sensible scanning and image processing solution for Acorn 32-bit machines.



The highly advanced software supplied with the scanner offers you many different image processing options, such as dithering, image enhancement, edge detection, brightness and contrast controls, plus many more.

Features include:

- Multiple copies of an image in memory at once
- Advanced image processing tools
- Convolution digital filtering with over 100 filters
- Adjustable scale & size during scan
- Save images in industry standard formats
- True brightness, contrast and gamma controls
- 105mm scanning width
- Ability to rotate and shear the image

- **Scan256 for A300/A400/A5000 £115**
- **Scan256 for A3000 external £125**

Archi A4 Scanner

The 216mm scanning width can cope with both desktop scanning of single sheets, photographs, etc, with its detachable sheet feeder, or used as an A4 wide hand scanner. 64 grey levels are produced from the scanner at resolutions up to 400dpi.

- A4 Scanner for A300/A400 £175
- A4 Scanner for A3000 £195
- Sheet Feeder for A4 Scanner £59

Upgrade to Archi A4 Scanner

For existing users of the Archi MK2 hand scanner we can offer you an upgrade to the A4 Scanner for only **£99**

Fax/Modem Bundle

Now you can use your Archimedes computer as a fax machine. Prepare a fax, send it using the ArcFax software. Receiving a fax is simple - display on the screen or print out on any RISC OS printer.

- Fax/Modem with ArcFax software £149

Hard Disc Drive Upgrades

A3000/A3010 Internal IDE Hard Drives

ADA0730	120Mb	19ms	£189
ADA2360	170Mb	11ms	£209
ADA1070	250Mb	11ms	£249
ADA2090	340Mb	11ms	£309
ADA2200	540Mb	10ms	£489

A300/A400 Internal IDE Hard Drives

Complete with interface, drive, cables and mountng brackets

ADA2010	280Mb	13ms	£179
ADA0580	365Mb	13ms	£199
ADA2030	420Mb	12ms	£249
ADA2210	528Mb	11ms	£299

A5000 Internal IDE Hard Drives

To replace existing hard drive, if required to be additional drive, 2nd drive kit will be needed.

ADA2050	280Mb	13ms	£149
ADA0880	365Mb	13ms	£179
ADA2060	420Mb	12ms	£199
ADA2220	528Mb	11ms	£259

A300/A400 IDE Hard Cards

ADA2370	170Mb	11ms	£219
ADA1090	250Mb	11ms	£259
ADA2100	340Mb	11ms	£319
ADA2230	540Mb	10ms	£499

A300/A400 SCSI Hard Drives

Complete with 16-bit interface, drive, cables and mountng brackets

ADA2300	365Mb	12ms	£340
ADA2310	540Mb	11ms	£429
ADA2320	1.0Gb	9ms	£579
ADA2330	2.0Gb	10ms	£1069

Cables & Accessories

- A5000 2nd Drive Kit £10
- 16-bit IDE Interface - A300/A400 £39
- 8-bit IDE Interface - A3000 £49
- SCSI Interface - A300/A400 £119
- SCSI-2 Interface - A300/A400 £199
- 25w - 50w SCSI Cable £10
- 50w - 50w SCSI Cable £16
- 50w - 50w SCSI-2 Cable £20

Memory Upgrades

- A3000 to 2Mb RAM upgrade £49
- A3000 to 4Mb RAM upgrade £119
- A3000 to 8Mb RAM upgrade** £259
- A3010 to 2Mb RAM upgrade £59
- A3010 to 4Mb RAM upgrade £139
- A3020/A4000 to 4Mb RAM upgrade £89
- A410/1 to 2Mb RAM upgrade £35
- A410/1 to 4Mb RAM upgrade £70
- A420/1 to 4Mb RAM upgrade £105
- A540 additional 4Mb RAM upgrade £249
- A5000 to 4Mb RAM upgrade £79
- A5000 4Mb to 8Mb RAM upgrade £259
- RiscPC additional 2Mb RAM £85
- RiscPC additional 4Mb RAM £139
- RiscPC additional 8Mb RAM £279
- RiscPC additional 16Mb RAM £499
- RiscPC additional 32Mb RAM £999

** Dealer fit only

RISC OS Upgrades

- RISC OS 3.1 Single User upgrade £73
- RISC OS 3.1 Bulk Software upgrade £319
- RISC OS 3.1 Hardware upgrade £21

Graphics Cards

- Colour Card Gold £239
- Chroma 500 Genlock card £419
- Chroma 150 PAL Encoder £169
- Chroma Genlock card £209
- Hawk V9 MKII Digitiser £189
- Eagle M2 Multimedia card £319
- Scanlight Video 256 £199
- Multiscan VIDC Enhancer £15
- SuperVGA VIDC Enhancer £29
- Vision24 254-line Colour Digitiser £99
- Vision24 508-line Colour Digitiser £139
- CC TV Tuner card £89
- CC Movie Magic MPEG card £249

We stock a full range of add-ons and expansion cards from HCCS, Computer Concepts, Wild Vision, Cumana, Aleph One, IFEL, Lingenuity and Acorn. If there is a product you can't see here, it doesn't mean we don't stock it.

Call 01582 745555 for price and availability

TO ORDER CALL OUR SALES HOTLINE 0582 745555

or FAX YOUR ORDER on 0582 488588

Access



AMERICAN EXPRESS

ArcScan Flatbed Scanners



The ArcScan range of professional flatbed scanners for the Acorn 32-bit RISC machines and the RiscPC, are incredible value for money. Whatever your budget, there is a model for you. There are 3 models in the range, from a 256 grey scale scanner through to a 24bit high speed scanner.

All models use the new industry standard SCSI-2 interface*, which allows you to scan a full A4 page in just 15 seconds (mono) and in a few minutes (24-bit colour).

The scanners are ideal for anyone in the publishing field, requiring to import scanned images easily into their documents.

The scanners are amazingly fast. Using the industry standard TWAIN drivers and state of the art SCSI-2 interface technology, the ArcScan is probably the most powerful, yet easy to use scanner available.

All scanners are supplied complete with ImageMaster scanning software and Sleuth OCR software. An optional SCSI-2 interface is available to give the best performance. Also available are a 50-sheet auto document feeder and a transparency adaptor.

Special prices available to Schools, Colleges and other Educational establishments.



Accessories

- SCSI-2 Interface & Cable £166
- 50 sheet Document Feeder £259
- Transparency Adaptor £295

FREE Software

All models come complete with two software packages –

ImageMaster
Image capture and graphics enhancement software.

Sleuth OCR
Software for turning scanned text into an editable format.

(4Mb RAM required to use scanner)

ArcScan 3420

- 256 grey scale scanner
- 300 x 600 dpi optical resolution
- 1200 x 1200 dpi max resolution
- 216 x 356 mm scanning area
- single pass scanning process

AVAILABLE NOW **£499**

ArcScan 3520

- 24-bit colour scanner
- 300 x 600 dpi optical resolution
- 1200 x 1200 dpi max resolution
- 216 x 356 mm scanning area
- single pass scanning process

AVAILABLE SHORTLY **£549**

ArcScan 2412

- 24-bit colour scanner
- 300 x 600 dpi optical resolution
- 2400 x 2400 dpi max resolution
- 216 x 356 mm scanning area
- single pass scanning process

AVAILABLE SHORTLY **£699**

Modems

PACE MODEMS
- Microlin FX Fax Modem £112
- Microlin FX32 Fax Modem £169
- Linnet Quad FX Fax Modem £117
- Ultralink 32+ V32bis Modem £349

DATAFLEX MODEMS
- GEM Fax Modem £75
- SuperGEM Fax Modem £149
- Rapier Plus Fax Modem £379

US ROBOTICS MODEMS
- Sportster 14.4 Fax Modem £119
- Worldport 14.4 Fax Modem £174

- ArcFax 1.10 fax software £35
- Archimedes serial cable – 300/400 £9
- A5000/RiscPC serial cable £7

BBC Products

- AMX Super Art (ROM/Disc) £10
- AMX Stop Press (ROM/Disc) £10
- AMX Page Fonts for Stop Press £5
- AMX Mouse & FREE mouse mat £15
- Quest Paint software (ROM/Disc) £15
- ConQuest ROM £12
- Quest Fonts Disc £5
- Quest Integrex 132 printer driver £5
- Quest Tracerball - BBC B/M128 £20
- Quest Mouse Mat £3
- InterWord ROM £36
- InterSheet ROM £36
- InterChart ROM £25
- Logotron Logo ROM £40
- Mega3 ROM - Word/Sheet/Chart £69
- Numerator ROM £39
- Pendown ROM £32
- SpellMaster ROM £40
- Wapping Editor £29
- Wapping Art Disc £10
- Wapping Font Disc 1 £10
- Wapping Font Disc 2 £10
- View Printer Driver ROM £15
- View 3.0 ROM £45
- ViewSheet ROM £36
- ViewStore ROM £36
- ViewSpell ROM £28
- Master 512 Co-processor £49
- Master 65C 102 Co-processor £39
- 32K ROM/RAM Card - BBC B £29
- 64K ROM/RAM Card - BBC B £39
- 128K ROM/RAM Card - BBC B £59
- 32K Shadow RAM Card - BBC B £29
- 16K Static RAM for ROM/RAM Card £8
- 16K DRAM upgrade for ROM/RAM £7
- Battery backup for ROM/RAM Card £3
- Sideways RAM Utilities Disc £5
- Twin ROM Cartridge for Master 128 £6
- Quad ROM Cartridge for Master 128 £12
- Data Duck £10
- Power Duck £5
- Acorn 1772 DFS Kit - BBC B £47
- Acorn ADFS ROM Upgrade £25
- Watford 1772 DDFS Kit - BBC B £29
- BBC BASIC 2 ROM £15

Monitors

ACORN MONITORS
- AKF30 14" RGB Colour Monitor £179
- AKF40 14" RGB Colour Monitor £179
- AKF52 14" Multiscan Monitor £249
- AKF50 14" Hi Res Multiscan Monitor £299
- AKF60 14" ES SVGA Monitor £319
- AKF85 17" PS SVGA Monitor £969

TAXAN MONITORS
- Taxan EV400LR - 14" SVGA Monitor £208
- Taxan 787LR - 14" SVGA Monitor £209
- Taxan 580LR - 15" SVGA Monitor £339
- Taxan 885LR - 17" SVGA Monitor £719
- Taxan 865LR - 17" SVGA Monitor £599

PANASONIC MONITORS
- Panasync T1537 - 15" SVGA Monitor £359
- Panasync 1732 - 17" SVGA Monitor £589

CONNECTING CABLES
- Arc to AKF30/AKF40 Monitor lead £7
- Arc to VGA Monitor Adaptor £9
- 15-pin - 15-pin VGA Lead £12
- 15-pin VGA Extension Lead £12

Add-On Cards

I/O EXPANSION CARDS
- A3000 User Port/MIDI card (AKA12) £44
- A3000 User/Analogue/IIC card £35
- I/O Podule - Analogue/User/1MHz £79
- Archimedes Analogue/User I/O card £49

ULTIMATE EXPANSION SYSTEM
- Ultimate Expansion Interface £39
- Ultimate Expansion with IDE Interface £99
- Ultimate SCSI uPodule £69
- Ultimate Vision Digitiser uPodule £69
- Ultimate MIDI uPodule £49
- Ultimate Analogue uPodule £29
- Ultimate ScanLight 256 uPodule £229

DISC CONTROLLER CARDS
- ST506 Hard Disc Interface £59
- 16-bit IDE Interface - A300/A400 £39
- 8-bit IDE Interface - A3000/A3010 £49
- 16-bit SCSI Interface £119
- SCSI-2 Interface £189
- External Floppy Disc Interface £10

MISCELLANEOUS ADD-ONS
- 4-way Backplane - A300 series £22
- Fan for Backplane £8
- A3000 Serial Port Upgrade (AKA18) £19
- Arc to BBC Serial Transfer Link £15
- MEMC1A upgrade £29
- Floating Point Accelerator - A5000 £99
- ArcLaser A4-1200 Printer £985
- Scanlight 256 - A3000 internal £199

UNIVERSAL 2010 CONCEPT KEYBOARD
- 2010 A4 Concept Keyboard £99
- 2010 A3 Concept Keyboard £109
- BBC User Port Cable £12
- Archimedes Serial Port Cable £12

Networking

ACORN ECONET PRODUCTS
- Econet Interface - all models £49
- Ethernet Interface III - A5000 £149
- Ethernet Interface - RiscPC £99

Acorn Access Peer to Peer Networking
- Acorn Access - A3000 £145
- Acorn Access - A3020 £145
- Acorn Access - A5000 £145
- Acorn Access - RiscPC £119

I-CUBED ETHERNET PRODUCTS
- Accord P/P Networking - A3000 £145
- Accord P/P Networking - A3020 £149
- Accord P/P Networking - A5000 £145
- EtherLAN Card - A3000 (BNC) £131
- EtherLAN Card - A3020 (BNC) £143
- EtherLAN Card - A5000 (BNC) £131
- EtherLAN Card - A3000 (B/TP) £131
- EtherLAN Card - A3020 (B/TP) £148
- EtherLAN Card - A5000 (B/TP) £131
- EtherLAN Card - RiscPC (B/TP) £113

ETHERNET HUBS
- 8 port UTP Ethernet Hub £179
- 12 port UTP Ethernet Hub £259
- 16 port UTP Ethernet Hub £329

ETHERNET CABLING

Cable length	*Thin*	*UTP*
• 3m	£5	£3
• 5m	£6	£5
• 10m	£9	£8
• 15m	£12	£10
• 20m	£17	£14

NETWORKING SOFTWARE
- AUN/Level 4 Fileserver Rel.3 £359
- TCP/IP Protocol Suite - s/user £99
- TCP/IP Protocol Suite - site licence £399

Archi Spares

- Archimedes keyboard (cased) £99
- A4000 Keyboard (cased) £79
- Replacement keyboard - A3000/A3010 £29
- Keyboard Controller PCB - MK2 Kbd £49
- A300/A400 Power Supply Unit £59
- A3000 Power Supply Unit £35
- A4000 Power Supply Unit £59
- A5000 Power Supply Unit £69
- 3.5" FDD for A3000/A4000 £39
- 3.5" FDD for A3010/A4000/A5000 £39
- VIDC Video Controller (VL86C310) £39
- IOC I/O Controller (VL86C410) £39
- MEMC1A (VL86C110) £25
- ARM2 8MHz CPU (VL86C010) £29
- 256K x 4 120ns ZIP DRAM £6
- Replacement Keyboard Cable £17
- Replacement Mouse Cable (state type) £12
- Replacement Mouse Ball £5
- 1.2v NiCad Battery - A3000/A5000 £4
- AA Batteries - A300/A400 (pair) £2
- Fan Filter £2
- Eject Button - A3010/A3020 FDD £3
- Loudspeaker £2

BBC Spares

BBC B SPARES
- BBC B Power Supply £49
- BBC Keyboard £35
- Keyswitches £1
- Functon Keystrip Holder £3
- Serial/Video ULAs £10
- 6502A CPU £5
- 6512A VIA £5
- 6845 CRTC £10
- 6850 ACIA £8

MASTER 128 SPARES
- Master 128 Keyboard £62
- Master 128 Battery Pack £4
- Master 128 Power Supply £69
- Master ULAs £15
- 1772 Disc Controller £10
- 6818 Real Time Clock £12
- Loudspeaker £3
- 65SC12 CPU £12

Accessories

DUSTCOVERS & CARRY CASES
- A3000 Keyboard Dustcover £5
- A3000 Micro & Monitor Dustcover £9
- A300/A400 Dustcover £9
- A5000 Combined Dustcover £9
- 14" Monitor Dustcover £6
- A3000 Shoulder Bag £10
- A4 Notebook Carry Case £35

MICE & JOYSTICKS
- Mk4 Archimedes Mouse £24
- Acorn Logitech Mouse £29
- Voltmace DeltaCat Joystick £25
- Quest Tracerball £20

MISCELLANEOUS ACCESSORIES
- Battery Pack for A4 Notebook £49
- A3000 Monitor Stand £15
- A3000 External Podule Case £10
- Archimedes Keyboard Extension Lead £5
- Archimedes Mouse Port Splitter £5

PC Cards

Transform your Archimedes so you can run standard PC MS-DOS software and even Windows 3.1. Available as a bare card with either 486SLC25 or 486SLC2-50 (no memory) or with 4Mb RAM fitted. Prices do not include DOS or Windows, which we can supply for an extra £99, at time of purchase only.

- 486 25MHz 0Mb RAM £369
- 486 25MHz 4Mb RAM £529
- 486 50MHz 0Mb RAM £449
- 486 50MHz 4mb RAM £609
- 4Mb SIMM RAM Module £149
- 8Mb SIMM RAM Module £299
- 16Mb SIMM RAM Module £499
- 486SX33 Card for RiscPC £199
- MS DOS 6.2/Windows 3.1 £99

TO ORDER CALL OUR SALES HOTLINE 0582 745555
or FAX YOUR ORDER on 0582 488588

Access VISA AMERICAN EXPRESS

Printers & Accessories

Laser Printers

All Laser printers (excluding Hewlett Packard & Panasonic 4400/4401/5400) include 12 Months On-Site maintenance

Brother HL630	6ppm	£356
Brother HL-6V	6ppm	£456
Canon LBP 4i	4ppm	£409
Canon LBP-8 IV	8ppm	£920
Canon LBP-8 IIIR	8ppm	£1559
Epson EPL-3000	4ppm	£425
Epson EPL-5200	6ppm	£475
Epson EPL-5600	6ppm	£656
Epson EPL-7500 PS	6ppm	£1135
Fujitsu VM600	6ppm	£499
HP Laserjet 4L	4ppm	£395
HP Laserjet 4 ML	4ppm	£735
HP Laserjet 4P	4ppm	£595
HP Laserjet 4MP	4ppm	£850
HP Laserjet 4MV	4ppm	£1989
HP Laserjet 4V	4ppm	£1389
HP Laserjet 4+	12ppm	£940
HP Laserjet 4M+	12ppm	£1260
HP Laserjet 4Si	16ppm	£2095
HP Laserjet 4Si MX	16ppm	£2990
NEC SuperScript 610	6ppm	£273
OKI OL-400ex	4ppm	£319
OKI OL-410ex	4ppm	£445
OKI OL- 850 PS	8ppm	£1199
Panasonic KX-P4400P	4ppm	£290
Panasonic KX-P4401P	4ppm	£369
Panasonic KX-P4410*	5ppm	£325
Panasonic KX-P4430*	5ppm	£480
Panasonic KX-P4440*	10ppm	£765
Panasonic KX-P5400	4ppm	£595
Star LS-5 TT	5ppm	£528
Star WinType 4000	4ppm	£296

*2 years on-site warranty

Laser RAM Upgrades

Type	1M	2M	4M	8M
Canon LBP-4+	£139	–	–	–
Canon LBP-4i	£109	–	£279	–
Canon LBP-8 IV	£119	–	£299	–
EPL-4100/4300	£70	£110	£205	–
EPL-5200/5800	£58	£115	£215	–
Fujitsu VM600/VM4	£57	£85	£149	£299
Fujitsu VM800	£115	–	–	–
HP III/IIIP/IIID	£75	£115	£135	–
HP II/IID	£75	£115	£135	–
HP IIISI	£57	£85	£158	£299
HP 4/4M/4P/4MP	£85	£85	£149	£299
HP 4L/4ML	£75	–	–	–
KX-P4410/4430	£129	£199	–	–
KX-P4420/4450i	£75	£115	£135	–
KX-P4400/5400	£89	£139	£229	–
OKI OL400e	£99	£118	–	–
Star LP-8	£138	£225	–	–
Star LS-5	£75	–	–	–

Laser Consumables

Type	Toner	Drum	Dev
Brother HL630	£20	£99	–
Canon/Star 4s	£46	–	–
Canon LBP-8 IV	£70	–	–
Canon LBP-8 III	£52	–	–
EPL-4100/4300	£75	£89	–
EPL-5200	£85	–	–
EPL-7100/7500/8100	£117	–	–
Fujitsu VM600	£85	–	–
Fujitsu VM800	£115	–	–
Fujitsu VM4	£29	£149	£89
HP II/III/IIID	£47	–	–
HP IIP/IIIP	£46	–	–
HP IIISi/4Si	£85	–	–
HP 4/4M/4P/4MP	£72	–	–
HP 4L/4ML	£49	–	–
NEC 610	£85	–	–
NEC S80/S62P	£105	–	–
OKI OL-400/800	£19	£189	–
OKI OL-400e	£17	£129	–
KX-P4410/30	£29	£80	£90
KX-P4440	£32	£108	£115
KX-P4420	£24	£60	£55
KX-P4450/50I/51/55	£18	£75	£60
KX-P4400/5400	£32	£69	–
Qume Crystalprint	£99	£189	–
Star LS-5	£83	–	–

Laser Accessories

JetPage Postscript Cartridge - IIP/IIIP	£225
Postscript Upgrade for LaserJet 4	£270
LaserJet 4 Lower Paper Cassette	£205
LaserJet 4 JetDirect Ethernet Card	£339
LaserJet IIIP Lower Paper Cassette	£115
Ozone filter for KX-P4420	£9
Ozone filter for KX-P4450/4455	£20
LaserJet 4Si Duplex Unit	£475
Envelope Feeder for LaserJet 4	£199
LaserJet Font Cartridges	from £45
LaserJet III FX/IBM Emulation Cart.	£79
Lower Paper Tray for Canon LBP-4	£98
A5 Paper Feeder for LaserJet 4P	£85
Postscript Upgrade for LaserJet 4P	£225

9pin Matrix Printers

Citizen Swift 90	80col	£114
Citizen Swift 90C	80col	£121
Citizen 1200+ Parallel	80col	£90
Citizen 120D+ Serial	80col	£105
Epson LX100	80col	£109
Epson LX300	80col	£90
Epson LX400	80col	£89
Epson LX1050	132col	£172
Epson FX870	80col	£222
Epson FX1170	132col	£280
Epson DFX5000+	132col	£1095
Panasonic KX-P1150	80col	£89
Panasonic KX-P1695	132col	£267
Star LC15	132col	£177
Star LC90	80col	£89
Star ZA200	80col	£255
Star ZA250	132col	£315

24pin Matrix Printers

Citizen ABC Mono	80col	£106
Citizen ABC Colour	80col	£125
Citizen Swift 200 Mono	80col	£138
Citizen Swift 200 Colour	80col	£146
Citizen Swift 240 Mono	80col	£160
Citizen Swift 240 Colour	80col	£178
Citizen Swift 24X	132col	£235
Epson LQ100	80col	£98
Epson LQ150 Colour	80col	£152
Epson LQ570+	80col	£183
Epson LQ870	80col	£350
Epson LQ1070	132col	£282
Epson LQ1170+	132col	£400
Epson DLQ3000		£672
Epson LQ3000	132col	£680
NEC P2Q	80col	£110
NEC P3Q	132col	£236
NEC P62Q	80col	£315
NEC P72	132col	£375
NEC P90	132col	£549
Panasonic KX-P2023	80col	£109
Panasonic KX-P2124	80col	£200
Panasonic KX-P1624	132col	£210
Panasonic KX-P2135	80col	£124
Star LC24-20 II	80col	£113
Star LC24-15 II	132col	£232
Star LC240 Mono	80col	£95
Star LC240 Colour	80col	£178
Star XB24-200C	80col	£315
Star XB24-250C	132col	£385

Ribbons/Ink Cartridges

(Manufacturers Original Ribbons Only)

Type	Black	Colour
Canon BJ10ex/BJ10sx	£14	–
Canon BJ200/BJ230	£16	–
Canon BJ300/BJ330	£11	–
Canon BJC600	£6	£7
Canon BJC800	£16	£22
Canon BJC4000	£7	£13
Citizen 120D+	£4	–
Citizen Swift 200/240	£4	£13
Citizen Swift 24X	£8	£18
Epson LX400/LX850/FX870	£4	–
Epson LX100	£4	–
Epson LX1050/FX1170	£5	–
Epson LQ100	£4	–
Epson LQ150	£4	£12
Epson LQ570/870	£5	–
Epson LQ1070/1170	£8	–
Epson LQ2550	£8	£16
Epson SQ870/SQ1170	£21	–
Epson Stylus Colour	£–	£29
Epson Stylus 300	£12	–
Epson Stylus 800/1000	£10	–
Fujitsu DL1150/DL1250	£5	£7
Fujitsu DL3600	£6	£12
Fujitsu B100/B200	£14	–
HP DeskJet High Capacity	£20	£21
HP DeskJet 310/320	£15	£21
HP DeskJet 1200	£20	£21
HP PaintJet	£16	£18
HP PaintJet XL300	£16	£18
Kaga/Taxan KP810/815	£5	–
NEC P88Q/P32Q	£8	–
NEC P82/72/90	£8	£14
Panasonic 1150/1170/1180	£7	–
Panasonic 2180/23/24/35	£7	£14
Panasonic 1824/2824	£8	–
Star LC10/LC20/LC100	£5	£9
Star LC100/200	£5	£11
Star LC24-20/24-100/24-200	£5	£12
Star LC24-30	£8	£12
Star XB24/ZA200/ZA250	£5	£12
Star SJ48	£15	–
Star SJ144 Thermal	£18	£18

Inkjet Printers

Canon BJ10sx	80col	£136
Canon BJ200	80col	£178
Canon BJ230	132col	£236
Canon BJ300	80col	£318
Canon BJ330	132col	£368
Canon BJC600	80col	£329
Canon BJC800	132col	£1067
Canon BJC820 (Mac)	132col	£1228
Canon BJ4000C		£319
Citizen ProJet II	80col	£299
Citizen ProJet IIC		£191
Citizen Notebook 2		£191
Epson Stylus 300	80col	£138
Epson Stylus 400	80col	£132
Epson Stylus 800+	80col	£170
Epson Stylus 1000	132col	£312
Epson Stylus Colour	80col	£333
Epson SQ870	80col	£415
Epson SQ1170	132col	£580
Fujitsu B100	80col	£145
HP DeskJet 320		£170
HP DeskJet 320 & CSF		£202
HP DeskJet 520	80col	£195
HP DeskJet 500C	80col	£214
HP DeskJet 560C	80col	£332
HP DeskJet 1200C	80col	£907
HP DeskJet 1200C PS	80col	£1266
HP PaintJet XL300+	132col	£1599
HP PaintJet XL300 PS	132col	£2568
HP DeskWriter 520 (Mac)	80col	£192
HP DeskWriter 500C (Mac)	80col	£260
HP DeskWriter 560C (Mac)	80col	£375
Star SJ48	80col	£182
Star SJ144	80col	£285
Star Wintype 800C Thermal Colour		£592

Sheet Feeders

Canon BJ10ex/BJ10sx	£40
Canon BJ300	£88
Canon BJ330	£92
Citizen Swift 24/200/240	£75
Epson LX400	£69
Epson LQ570/LQ870	£47
Epson LQ1070/LQ1170	£89
HP DeskJet 310	£48
NEC P20/P220	£59
NEC P3Q/P32Q	£85
Panasonic 1170/1180/1123	£59
Panasonic 1124/1124i/2124	£79
Panasonic 1824/2824	£128
Panasonic KX-P2135	£30
Star LC100	£69
Star LC24-20	£69
Star LC200/LC24-200	£69

INKJET REFILL PACKS

Canon BJ10ex/BJ10sx - 2 pack	£12
Canon BJ10ex/BJ10sx - 5 pack	£24
Canon BJ10ex - Cart/3 Refills	£29
Canon BJ200 - Cart/3 Refills	£34
HP DeskJet Std Capacity - 2 pack	£8
HP DeskJet Hi-Capacity - 2 pack	£24
HP DeskJet Std Capacity - 5 pack	£14
HP DeskJet Hi-Capacity - 5 pack	£35
HP DeskJet Colour - Cart/4 Refills	£49

Accessories

Citizen Swift 200/240/ABC Colour Kit	£32
Citizen Projet II Cartridge	£3
Canon BJ10sx Battery Pack	£32
Epson 0K Serial Interface	£29
Epson 8K Serial Interface	£75
Epson 32K Serial Interface	£95
Epson LQ100 Tractor Unit	£29
HP DeskJet FX Emulation Cartridge	£49
HP DeskJet IBM Emulation Cartridge	£57
HP DeskJet 256K RAM Cartridge	£45
HP Deskjet 310 Black Cartridge	£14
HP DeskJet 310 Battery Pack	£33
HP DeskJet Carry Case	£49
HP DeskJet 310 Colour Kit	£28
HP DeskJet 1200 Postscript Upgrade	£499
HP DeskJet Prestige Elite Fonts	£55
HP DeskJet Letter Gothic Fonts	£56
HP DeskJet 310 Parallel Cable	£12
Panasonic Serial Interface	£49
Panasonic 32K Buffer	£16
Panasonic 2180/2123 Colour Kit	£30
Star 8K Serial Interface - LC range	£52
Star 8K Serial Interface - XB range	£39
Star 32K Buffer - LC24/XB24	£52
Dustcovers for 80col printers	£6
Dustcovers for 132col printers	£9
51636G - 50 x DJ500 Transparencies	£35
51838J - 50 x DJ500 Glossy A4 Paper	£35
51630Z - 50 x DJ500 A4 Paper	£15
Appletalk Printer Cable - 2m	£12
Appletalk Interface for DeskJet 1200	£129
Appletalk Interface for LaserJet III	£189

HP On-site Warranty 3yrs

Mono DeskJets & Deskwriters	£40
Colour DeskJets & Deskwriters	£85
4ppm LaserJets & DeskJet 1200C	£100
8ppm LaserJets	£185

LUTON SHOWROOM
Finway, Dallow Road, Luton, Beds.
Tel: 0582 74 55 55

WATFORD SHOWROOM
250 Lower High Street, Watford, Herts.
Tel: 0923 23 77 74

Manual Printer Sharers

Standard Low Cost Sharers

Connects	Serial	Parallel
2 to 1	£8	£9
3 to 1	£11	£12
4 to 1	£15	£16
5 to 1	£27	£28

Professional Sharers

Connects	Serial	Parallel
2 to 1	£12	£13
3 to 1	£15	£17
4 to 1	£24	£26
5 to 1	–	£38

Crossover Sharers

Connects	Serial	Parallel
2 in/2 out	£28	£29
4 in/2 out	–	£49

Auto Printer Sharers

Uni-Directional

Connects	Serial	Parallel
2 to 1	£27	£29
4 to 1	£44	£45
8 to 1	£62	£75

Bi-Directional

Connects	Serial	Parallel
2 to 1	£29	£29
4 to 1	–	£35

256K RAM module for above £59

256K Auto Sharers

Parallel Auto sharers with 256K RAM

- 2 in/2 out £99
- 4 in/2 out £115
- 8 in/1 out £149

Compact Converter

Serial/Parallel Converter	£32
Serial/Parallel Converter – 256K Buffer	£40
IEEE-488/Centronics Converter	£49

Buffers

	256K	1Mb	2Mb
Flash Buffer	£65	£98	£119
Fast Flash Buffer	£85	£125	£158
Plotter Buffer	£155	£184	£330

Printer Leads

	2m	5m	10m
PC Parallel	£4	£8	£13
25 'D' Male/Male	£4	£8	£13
25 'D' Male/Female	£5	£9	£14
Centronics D/Ended	£8	£10	£15
BBC Parallel	£6	–	–

Other standard cables available on request

Paper

500sht A4 80g Laser/Copier paper	£2.50
500sht A4 80g Coloured paper	£3.50
Pink, Green, Gold, Daffodil, Blue, Vellum	
1000sht 9.5" x 11" Fanfold paper	£5.50
2000sht 9.5" x 11" Fanfold paper	£8
1000sht 15" x 11" Fanfold paper	£7.50
2000sht 15" x 11" Fanfold paper	£11
1000sht A4 70g Fanfold paper	£8
2000sht A4 70g Fanfold paper	£15

High Quality Paper

500 sheets A4 90gm pure white ideal for laser & inkjet printers

£4.50

Labels

On continuous fanfold sheets

1000 90mm x 38mm Single Row	£4.50
1000 90mm x 36mm Twin Row	£4.80
1000 90mm x 49mm Twin Row	£4.95
1000 102mm x 36mm Twin Row	£4.70
2400 70mm x 37mm Laser Labels	£15.25

Miscellaneous

80 column Perspex printer stand	£12
132 column Perspex printer stand	£18
80 column Professional printer stand	£15
132 column Professional printer stand	£27
Printer trolley	£39
Ergo Chair	£29

TO ORDER CALL OUR SALES HOTLINE or FAX YOUR ORDER on 0582 488588 **0582 745555**

Access VISA AMERICAN EXPRESS

Archimedes Software

Educational

10 OUT OF 10 SOFTWARE

- Dinosaurs £15
- Driving Test £15
- Early Essentials £15
- English £15
- Essential Maths £15
- Essential Science £15
- French £15
- Junior Essentials £15
- Maths – Numbers £15
- Maths – Algebra £15
- Maths – Geometry £15
- Maths – Statistics £15
- Spelling & Punctuation £15
- Structured Spelling £15

FREE Dinosaurs with every 10 out of 10 title this month

- Animated Alphabet £16
- Animated Numbers £16
- Anglo Saxons £24
- Arcventure I - Romans £24
- Arcventure II - Egyptians £24
- Arcventure III - Vikings £24
- Arcventure I, II & III Bundle £68
- An Eye for Spelling £31
- Around the World in 80 Days £29
- Aztecs £32
- Badger Trails £32
- Best Four Adventure £31
- Best Four Language £31
- Best Four Maths £31
- Bookstore Primary £33
- Bookstore Secondary £52
- Britain Since the 1930s £29
- Crystal Rain Forest £31
- Dreamtime £18
- Export, Trade & Industry £34
- Farm £15
- Fun School 3 - Under 5s £15
- Fun School 3 - 5 to 7s £15
- Fun School 3 - Over 7s £15
- Fun School 4 - Under 5s £15
- Fun School 4 - 5 to 7s £15
- Fun School 4 - Over 7s £15
- Fleet Street Phantom £22
- Geordie Racer £21
- Investigating Maths £32
- Landmarks - World War II £21
- Landmarks - Egypt £21
- Landmarks - Rainforest £21
- Landmarks - Victorians £21
- Landmarks - Columbus £21
- Landmarks - Aztecs £21
- Landmarks - Civil War £21
- Landmarks - Elizabeth I £21
- Linkword - French £32
- Linkword - German £32
- Linkword - Spanish £32
- Magpie 2 £49
- Nature Park Adventure £22
- Naughty Stories Vol.1 £37
- Naughty Stories Vol.2 £37
- Numerator £32
- Numerator Chaos Pack £18
- Podd £23
- Recall £32
- Sea Rescue £22
- Sky Hunter £21
- Stig of the Dump £18
- Space Mission Mada £22
- Through the Dragon's Eye £21
- Topographer £59
- Viewpoints £29
- Wizard's Revenge £15
- Worst Witch £18

Site Licences

- Advance Primary Licence £181
- Advance Secondary Licence £440
- Artworks £540
- Acorn Desktop Assembler £589
- Impression Style £495
- Impression Publisher £540
- Pinpoint 2 £379
- Pipedream 4 £695

Printer Drivers

- !Printers v1.22 Upgrade Disc £5
- Canon BJ TurboDriver £39
- Epson Stylus Turbodriver £39
- Expression PS £19
- HP DeskJet Turbodriver £39
- HP DeskJet Colour Driver £10
- Repro £42
- Show Page £139

Desktop Publishing

- First Page DTP £41
- Impression Style £73
- Impression Publisher £122
- Impression Publisher Plus £219
- Impression Borders Disc £12
- Ovation DTP £79
- Ovation/Desktop Thesaurus £95

DTP Utilities

- CC Graphics Loaders £35
- Desktop Thesaurus £16
- Formulix £65
- Optical OCR £89
- Sleuth OCR £43
- Spellmaster £25
- Type Studio £38

Word Processing

- DeskEdit 3 £21
- Easiword Plus £36
- Easiwriter 3 £115
- Pendown £47
- Pendown Etoile £47
- Pendown Plus £68
- Primeword £42
- Talking Pendown £53
- Techwriter £164
- Wordz £54
- Wordworks £35

Integrated Packages

- Acorn Advance £89
- Desktop Office £48
- Fireworkz £99
- Fireworkz Pro £145
- Pipedream 3 £69
- Pipedream 4 £95

Spreadsheets

- Advantage £42
- Eureka £97
- ProSheet £33
- Resultz £75
- Schema 2 £95

Business/Accounts

- Business Accounts £275
- Financial Controller £175
- Home Accounts £24
- Micro Trader £275
- Payroll Manager £59
- Personal Accounts £33
- PlanING £95
- ProjectING £289
- Prophet Accounts £129
- Shareholder Professional £115

Music & Speech

- Arcticulate £17
- Armadeus £59
- AudioWorks £35
- Notate £59
- Rhapsody 2 £45
- Rhapsody 3 £72
- Score Draw £45
- Speech! £18
- Vox Box £45

Miscellaneous

- Compression £35
- Concept Keyboard Designer £20
- DFS Reader £5
- File Handling for All Disc £4
- Hard Disc Companion 2 £39
- ImageMaster £25
- Investigator 3 £43
- Oak Logic £69
- Touch Type £39
- WIMP Programming for All Disc £4

CAD

- ArcPCB £72
- ArcPCB Professional £151
- ArcPCB Schematics £235
- CADet £95
- Excellon Drill £43
- Gerber Plot £43
- Logix £72
- Power Router £43
- Pro CAD £369
- Solid CAD £65

Impression Publisher



- Impression Publisher £122
- Impression Publisher Plus £219

The latest and greatest addition to the desktop publishing arena. The package boasts the usual features including spell checker, thesaurus, mail-merge, style sheets and more.

More advanced features include irregular graphic frames, crop marks, page bleed, auto tracking & kerning, full colour support for Postscript separation of 24 bit & 32 bit CMYK images.

Programming Tools

- ABC II Basic Compiler £83
- Cambridge Pascal £83
- Control Logo £21
- Acorn Desktop Assembler £119
- Acorn Desktop C £151
- Easy C £43
- Easy C++ £95
- First Logo £20
- Logotron Logo £57
- Acorn PC Emulator v1.8 £92
- RiscBASIC Compiler £59
- RiscForth Compiler £59
- Robo Logo £29
- WimpGEN £59

Databases

- Alphabase £36
- Insight £58
- Flexifile £19
- Genesis Plus £5
- Genesis Project £47
- Genesis Professional £113
- Knowledge Organiser II £70
- Masterfile 3 £39
- Multistore 2 £79
- Pinpoint 2 £82
- Pinpoint Junior £25
- Pinpoint Datafiles £12
- Recordz £96
- S-Base 2 Personal £103
- S-Base 2 Developer £189
- S-Base 2 Developer Plus £339

Graphics & Design

- Artworks £109
- Artworks & Clipart CD £139
- Artisan 2 £43
- Express £42
- Chartwell £22
- Clips 1 -clipart £26
- Clips 2 - clipart £26
- Euclid 2 £62
- Film Maker £53
- Glimpse £8
- Graphbox £36
- Graphbox Professional £85
- Hilighter £29
- Illusionist £38
- Image Animator £58
- Kid Pix £34
- Mogul £24
- Plot £61
- Poster £63
- Presenter GTI £55
- Prime Art £47
- Pro Artisan v2 £95
- Pro Art 24 - RiscPC only £119
- Rephorm £42
- Revelation 2 £69
- Revelation Image Pro £125
- Render Bender 2 £37
- Solids Render £59
- Solid Tools £199
- Splice £35
- Titler £113
- Trace £9
- Tween £35

Games

- Adventures of Sylvia Lane £16
- Air Supremacy £15
- Battle Chess £17
- Birds of War £22
- Black Angel £22
- Break 147 & Superproof £22
- Cannon Fodder £17
- Carnage Inc. £16
- Cataclysm £18
- Chess 3D £18
- Chocks Away Compendium £18
- Chuck Rock £16
- Crystal Maze £24
- Cyber Chess £18
- Cycloids £14
- Diggers £18
- Dungeon £18
- E-Type II £22
- E-Type Compendium £15
- Ego: Repton 4 £15
- Elite £29
- Fervour £16
- Flashback HD £18
- F.R.E.D. £14
- Games Wizard £17
- Haunted House £18
- Heimdall £18
- Hero Quest £18
- Holed Out Compendium £18
- Ixion £14
- James Pond £15
- James Pond 2 - Robocod £17
- Lemmings £14
- Lemmings 2 - Tribes £18
- Magic Pockets £17
- Mah Jong Patience £15
- Manchester United £10
- Manchester United Europe £18
- Nebulus £14
- Oh No! More Lemmings £12
- Omar Sharif's Bridge £15
- Play It Again Sam 1 £14
- Play It Again Sam 2 £14
- Play It Again Sam 3 £14
- Populous £18
- Premier Manager £18
- Quest for Gold (HD) £10
- Real McCoy 2 £20
- Real McCoy 3 £20
- Real McCoy 4 £20
- Repton 3 £14
- Saloon Cars Deluxe £20
- Sensible Soccer £18
- Sim City £15
- Sim City 2000 £25
- Striker £17
- Stunt Racer 2000 £18
- Stunt Racer Extra Tracks £14
- Superior Golf £14
- SWIV £8
- Technodream £14
- Time Machine £18
- Virtual Golf £18
- Virtual Golf Augusta £12
- Warlocks £22
- Xenon 2 £17
- Zool £18

Communications

- Arc Comm 2 £52
- Arc FAX £30
- Arc Term 7 £59
- Hearsay 2 £63

Books

Archimedes Books

- A3000 Technical Manual £29
- A3010/A3020 Tech Manual £29
- A5000 Technical Manual £29
- A4 Notebook Tech Manual £59
- Archimedes Assembly Lang £12
- Acorn to PC £5
- Artworks Made Easy £14
- ARM Technical Data Manual £10
- BBC BASIC Reference Guide £20
- C: Dabhand Guide 3e £15
- Control on the Archimedes £10
- First Impressions £20
- File Handling for All £10
- Good Impressions £12
- Impression II: Dabhand Guide £12
- RISC OS 3 Prog Ref Manual £95
- RISC OS 3 First Steps £12
- RISC OS 3 Apps/User Guide £20
- RISC OS Style Guide £10
- RiscPC Technical Manual £TBA
- Wimp Prog for All £10

BBC B/Master 128 Books

- Advanced BBC User Guide £10
- BBC B User Guide £10
- Complete BBC User H'Book £10
- Complete Mouse Handbook £5
- Master 128 Reference Pt.1 £14
- Master 128 Reference Pt.2 £14
- Master 128 Advanced Ref. £10

Diskettes

3M Diskettes

- 10 x 3.5" DSDD - 720Kb £6
- 10 x 3.5" DSHD - 1.44Mb £10
- 10 x 5.25" DSDD 80 track £6
- 10 x 5.25" DSHD 1.2Mb £8

Excel Diskettes – Lifetime Warranty

- 10 x 3.5" DSDD £6
- 10 x 3.5" DSHD £6
- 10 x 3.5" DSHD coloured £7
- 50 x 3.5" DSHD £22

Cleaning Kits

- 3.5" Cleaning Kit £4
- 5.25" Cleaning Kit £4



Leasing finance available at very attractive rates to businesses, schools and colleges etc. (subject to status). Minimum order value £1000

Credit terms also available to private customers, with repayment periods from 12 to 60 months. APR 19.9%

- All prices are exclusive of VAT and carriage.
- Official orders welcome from Schools, Colleges and Government bodies.
- Shop hours Mon to Sat (9am to 6pm) Thurs (9am to 8pm).
- Technical enquiries - Mon to Fri (9am - 5pm) only

Carriage Charges - Standard Service

	1st Item	2nd Item
Small items	£5.00	£2.00
Accessories	£6.00	£3.00
Software	£6.00	£3.00
Hardware	£7.00	£4.00
Laser Printers	£10.00	£6.00
Monitors	£10.00	£6.00

Some software packages qualify for the small item tariff.

For Express Delivery Service (next working day) simply double the above rates.

Terms and Conditions:
Offers and all items are subject to availability. Specifications and prices correct at time of going to press, but may change without notice. Please check suitability of peripherals and software when ordering. All trademarks are duly acknowledged. Goods are sold as per our standard terms and conditions, which are available on request. Goods are not sold on a trial basis. E&OE.



Watford Electronics Ltd

Jessa Group of Companies • Established 1972

Mail Order & Showroom: Jessa House, Finway, Dallow Road, Luton LU1 1TR.
Tel: 0582 487777. Fax: 0582 488588

Showroom only: Jessa House, 250 High Street, Watford WD1 2AN.
Tel: 0923 237774. Fax: 0923 233642

TO ORDER CALL OUR SALES HOTLINE 0582 745555
or FAX YOUR ORDER on 0582 488588

Access VISA AMERICAN EXPRESS



Dave Lawrence and Dave Acton present more programs, tips and techie trivia from beyond the PRM.

Tetris overload

Paul Carpenter

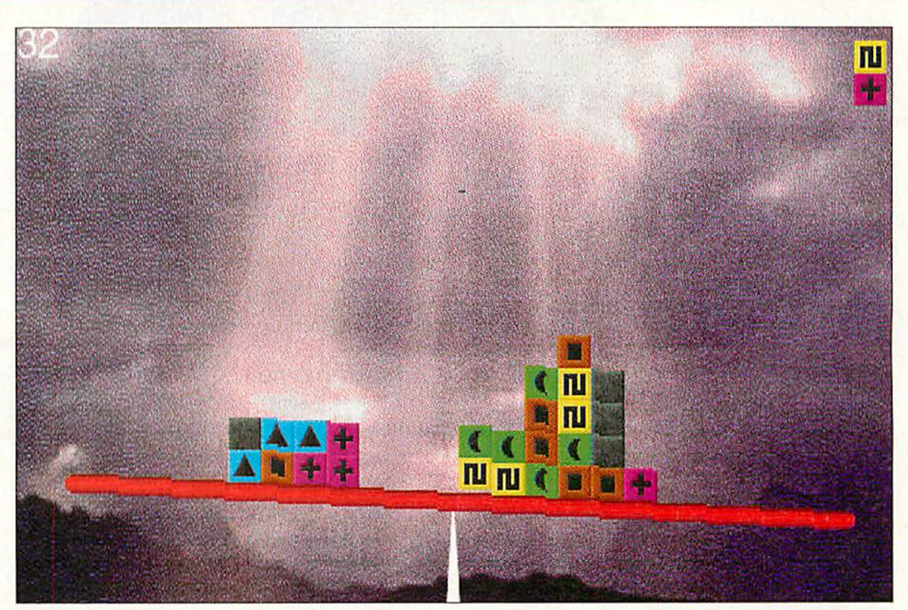
It may have a silly name, but *IYAToV* is just Yet Another *Tetris* Variation. We're not entirely sure where Paul Carpenter got the I and o from, but it does sound a bit more Russian.

Run the game and start by pressing Space (or mouse button on Begin Game). Unless the configuration has been altered, you'll have a (single) seesaw. Drop blocks onto it and the seesaw will tilt. It'll also fall down a bit if the columns get too high. Keys are: Z – left, X – right, Space – drop.

You make lines of three shape blocks or four lumps of iron (or whatever they are...) and they disappear. You die if your balance touches the bottom – the longer you last, the bigger your score approximately. Quite simple really.

In two player mode (using <, > and Return), there are two seesaws. Make lines with the tilt pieces (with opposing arrows on) to tilt the opponent's balance in the direction shown.

The Variation menu can alter game statistics which are all quite obvious. The Options menu controls the sound and number of players (but this can also be controlled by starting your game by pressing the 1 or 2 key). Finally the Controls menu allows you to change the keys – sorry, there's no mouse control available.



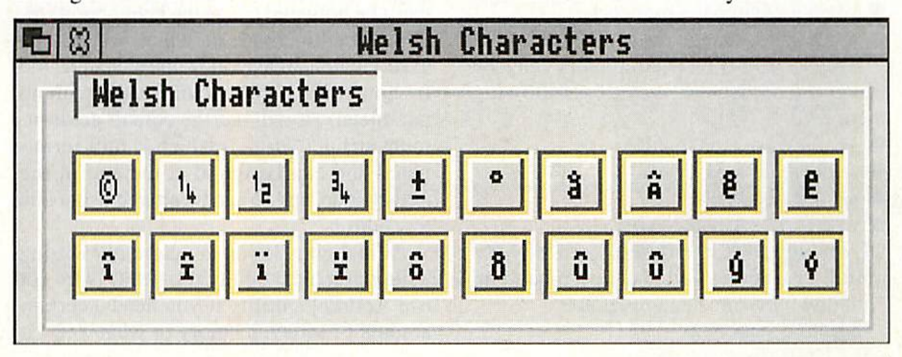
In character

Author: Gareth Edmondson

Gareth Edmondson of Neath felt that the full *Chars* window – used to enter foreign and other strange characters – was a bit too general. Indeed, searching through all the ±s and the Øs just to find the right á was so much of a chore, he was inspired to write *MultiChars* – a context-based character entry application.

Once installed, control is via an icon bar menu. Select the language required from the Languages sub-menu or open all available windows with the Show All option.

Four true languages are supported – French, German, Spanish and, most originally, Welsh. Another window of 'common' characters not shown on the keyboard, like © and ®, can also be opened. To enter a character into the keyboard buffer simply click on it. Of course, you can enter strange characters direct from the keyboard by holding down Alt and typing the ASCII code (I just about manage to remember Alt-169 for © and Alt-174 for ®). You could also try using the *Accent* module by Jan Maurits Faber (August 1992). Gareth's utility completes our range of keyboard utilities so we're sure there'll be one to suit you.



Tex-Mix

Author: Jan Van Mourik

Texture mapping is one of the buzzwords of the day, so you'll probably be quite disappointed to find that none of these three Van Mourik offerings map textures. What they do do, though, is produce three very interesting textures which you are free to map onto your icosahedrons or rhododendrons, or whatever they are.

First up is *Marble*. This uses a 256-colour mode and produces a quite passable marble. As with many textures of this ilk, it averages neighbouring pixels and adds in subtle random elements to produce new pixels.

Exactly which pixels are averaged, how they are averaged, and what random element is added will dictate the resulting texture. *Recur* produces its almost autumnal result by following a random walk technique. Finally, *Splash* uses a bit of both methods to come up with a turbulent watery scene.

On the double, Quicktype!

Author: Peter Bagnall

Old Electron owners will appreciate this module. It allows strings to be stored in keys in a similar way to the function keys, except *all* the keys on the keyboard can be used. Once a definition is stored, pressing Alt and the key will 'type' the string.

To define a key use the command: *EXPAND <keyname> <string>. You can use the following names for the non-alphanumeric keys: Ctrl-L, Ctrl-R, Shift-L, Shift-R, Return, Tab, Backspace, Space, Caps, Esc, Print, Scroll, Break, Insert, Delete, Home, Copy, Page Up and Page Down.

The cursor keys are named Left, Right, Up, and Down. The keys on the keypad have a prefixed 'n' as in n0, and the function keys are F1, F12, and so on. All these key names are case independent – the case of the expansion string is, of course, preserved. Try *Help QuickType for help. The *QuickType* application comes set up with a file called *Preset* which contains a number of useful definitions for BASIC.

Memor-ease

Author: Andrew Bower

Fifteen year old Andrew Bower of Solihull is the brains behind this versatile memory utility. *MemUtil* is the definitive method of controlling your machine's memory allocation.

Although RISC OS 3 provides the command *ChangeDynamicArea, *MemUtil* goes a lot further. It is a transient utility, rather than a module, so copy it into your library. To use it in your *!Run* files and so on, simply include *MemUtil followed by the necessary parameters:

- help: simply displays a help message in the style of *Help.
- display: displays the current size and free space of the dynamic areas of memory.
- interactive: a means of using the program without learning the syntax.
- system: set/change the system area.
- RMA: set/change the module area.
- screen: set/change the screen.
- sprite: set/change the system sprite area.
- font: set/change the font cache.
- RAMFS: set/change the RAM disc.

Each of these last parameters may be used in a variety of ways by following them with:

- +n: increase area by nK.
- -n: decrease area by nK.
- =n: set area to nK.
- n: ensures nK free in area.

Of these options, the final is probably the most useful and indeed, the most missed up until now. So, some examples are:

```
*MemUtil -rma +32
```

increases RMA by 32K

```
*MemUtil -font -48
```

reduces font cache by 48K

```
*MemUtil -screen =320
```

sets 320K screen memory

```
*MemUtil - sprite 23
```

ensures 23K free in system sprite area.

One of the benefits of using *MemUtil* is that the whole range of dynamic areas can be adjusted by a single command in a boot file etc. For example:

```
*MemUtil 0 32 =160 0 =96 =48
```

will shrink the system area as far as possible, ensure 32K is free in the RMA (useful when programming outside the desktop), force screen memory to 160K (e.g. for screen bank swapping), shrink the sprite area if possible, set the font cache size to 96K and create a 48K RAM disc.

If you can't remember the syntax (and can't be bothered to use the help option) try the interactive mode, in which you will be asked which areas you want to change and by how much. If *MemUtil* is used with no parameters, it will use the default environment string ('-d-h-i') which is null-terminated and can be found at the end of the object code, and so can be altered using any text editor.

A final note. If you are currently writing a little graphical oddity for *INFO, why not use Andrew's utility if you need a certain amount of screen memory or whatever – it will save a lot of frustration and 'Bad screen mode' type errors.

MemUtil – technical info

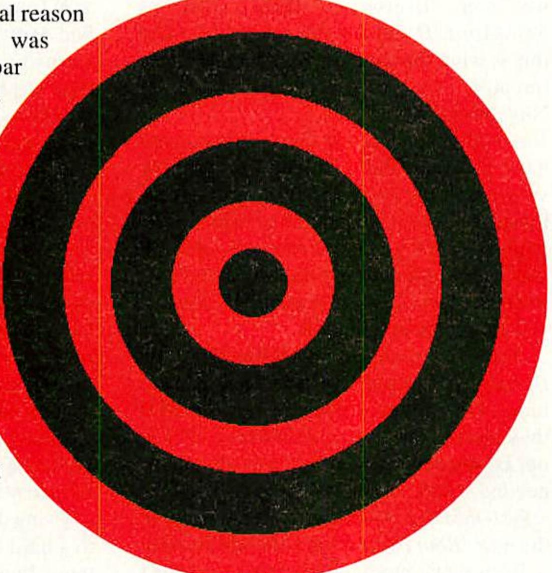
For those with a technical bent, the source for *MemUtil* can be found on the cover disc. When run, the utility is saved using the name in save$, so change this as required. The sub-routine .change is used to change the sizes. It parses the string supplied for each area and takes slightly different actions according to the preceeding character (-, + or =). The names of the dynamic areas are held in the form of an OS_PrettyPrint dictionary, using FNname. In order to display the memory sizes intelligently, the program uses OS_ConvertFixedFileSize and doctors the output.

To display the free space in a particular area it is necessary to use calls specific to each area. Thus, the table at .table contains the offsets of routines to call which return the free space in R0 and preserve all other registers. If the offset is zero, no free space is displayed.

For example, OS_Module is used to find the amount of free space in the RMA whereas OS_SpriteOp must be used to find the free space in the system sprite area. The free application memory is read with OS_GetEnv but does not include the WIMP free pool. The total memory in the machine is found by multiplying the page size with the number of pages, both values being returned by OS_ReadMemMapInfo

Typing pool

Author: Matt Browne



We have to admit that the only real reason this program was accepted was because of its rather nice icon bar icon! If you are a *INFO regular, you'll recognise Matt Browne's *Effect* as nothing new – a hypnotic pool of concentric circles what makes y'ize ga funni.

After running the program for a short while (half a minute or so), return to the desktop and you'll think you've got one of Acorn's extra special exploding AKF18 monitors. If you can't stand this, then, as we said, at least the icon bar icon is rather fun...

A drop in the ocean

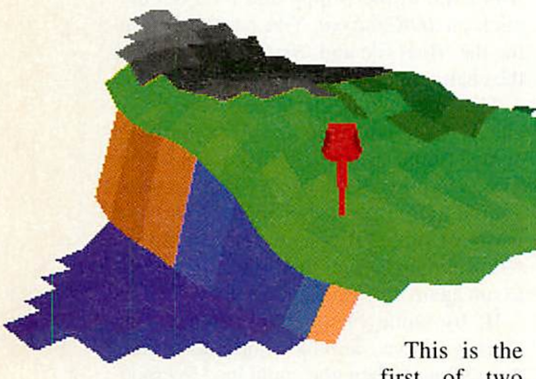
Author: James Andrews

Two quick little one-liners from James Andrews. *MilkDrops* uses a grey scaled 16-colour mode and some concentric circles to simulate the effect of ... um, er ... dripping ... um ... milk onto a pourous ... um ... black sheet. I think.

A cunning change to mode 15 and you get *Oil*, so called because when you drop oil onto water it produces coloured concentric circles which splash out from where the drop hits the water. Which, of course, isn't much like dripping milk onto a porous black sheet. In fact it's much more like dropping oil onto bottomless black water... and all this imagination from two one-line programs. Incredible.

High flier

Author: Morgan Henry



This is the first of two splendid demos from Morgan Henry. *Fly* gives you control of a 'helicopter' in which you can soar over a *Zarch* type landscape.

The only difference is that the landscape rotates and you stay still! The demo expects to find a landscape file *FlyMap* which is produced (quite slowly) by *GenFlyMap*.

GenFlyMap uses a technique demonstrated several times before in *Acorn User*; fault lines are generated across the map and all land on one side of the fault is raised or lowered.

This is done several times, resulting in a bumpy landscape which is 'weathered' (smoothed). Finally, a sea level is calculated and the land is coloured. All land below sea level is filled and painted a shade of blue, beaches are added just above this, and then patches of green for the hilly bits, with snow covered mountains for very high land.

The dimension of the landscape is 128 x 128 squares – this can be increased to 256 x 256 by altering *size%* and *sizes%* in the program, but prepare to wait 'til Christmas.

If you change the landscape size in *GenFlyMap* you will have to alter the same variables in *Fly*. Those of you blessed with fast machines may like to increase the depth of vision (dispx%) to about 20 – any more than about 23 and the colour picking routine gets confused.

The helicopter was added as a bit of an after-thought which is why it looks rather like a square radish – you cannot hit the ground, and it is in desperate need of a shadow.

We found it quite hard to get the hang of controlling the helicopter at first, particularly on faster machines, so we added a variable *fixed_height%*. This can be set to TRUE or FALSE at the start of the program and if TRUE, the helicopter remains at a fixed height throughout.

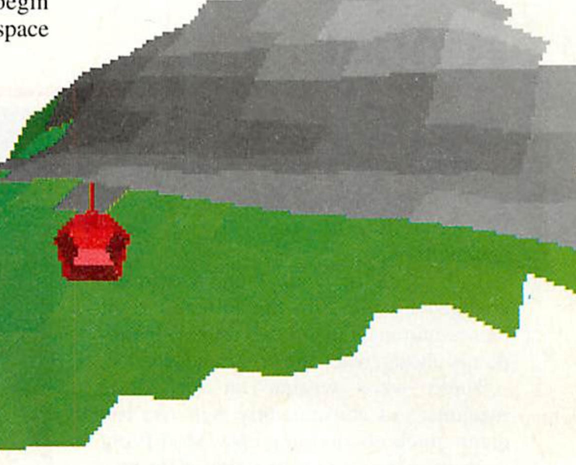
You may like to try it this way to begin with, or you might well float off into space never to see the ground again.



Technical info

First there is a little calculation of the helicopter's position and rotation. All grid points within 'visible' range of the camera are rotated about the camera position and clipped to the final display shape. The visible points would be any within a circle with radius dispx%, centred at the camera position, but this has been approximated to a square fully enclosing this circle. The resulting points are scaled by depth using a look-up table and are then projected onto the screen. The height of the land is scaled by the same value and added to the y-position of the point.

As each point is calculated, its position and colour is stored in an array and bin sorted. The bins are then flushed, drawing the back ones first. Each point is taken in turn, and the square is drawn by taking the points adjacent to it. The colour of the square is shaded by its depth using another look-up table. Finally, the program draws a square radish which you have to pretend is a helicopter.



3D template space-saver

Author: Nick Pearson

A useful little ditty from Nick Pearson, if you like using *NewLook*, but find yourself running short of memory...

If you have been using Acorn's *NewLook* application to give you the 3D look for the desktop, then you have probably altered your *!Boot* file to include the loading of *ROMApps3D* and *BorderUtils* to complete the effect by having the new template files for the ROM based applications.

This is great if you have 88K of RAM to spare because *ROMApps3D* sits in your module area taking up space whether you use it or not. To make matters worse, if a program that uses the new template files is loaded it puts a copy of its template file in its own workspace so you have two lots in RAM.

3DRamFree gets round this by copying the new files in *ROMApps3D* to a new directory called *Templates* in your *!System* application. It then alters your *!Boot* file (putting a copy of the original in the new *Templates* directory for safe keeping) by adding paths to point to the new location. If you do not have a *!Boot* file it will create one. Normally Filer$Path would point to:

```
Resources:$.Resources.Filer.
```

and this is where Filer would look for any of its resources. This is set up by RISC OS 3 when the computer is switched on or reset. By adding this next line to the *!Boot* file:

```
Set Filer$Path <System$Dir>.Templat
es.Filer.,<Filer$Path>
```

the Filer will look at the new location *first* and at the old location second. This way we don't need to have all of the application's resources in the new directory, only the bits that need replacing.

That takes care of some programs, but others like *Draw* set their paths when they are launched, and the *!Run* files that do this are in ROM; not easy to change. However, we can 'overwrite' them (just as *ROMApps3D* did for the other files) and this is what the module *Apps3Dmods* does (created by *Register*, *Acorn User* November 1992).

All the *!Run* files in these applications have had their Paths 'added to' and look very much the same as they were; except for *Alarm* which is changed to stop it complaining when you try to run two copies. It checks to see if *Alarm* is running and if it is, it stops. *Apps3Dmods* is under 4K long so you should be saving 84K.

Acorn's modules *ROMApps3D* and *BorderUtil* should be loaded before running *3DRamFree* – you will be warned if they aren't. Thereafter, *ROMApps3D* will not be needed. *BorderUtil* will always be needed and should be copied to *<System$Dir>.Modules* as this will be in the new *!Boot* file if it isn't already present.

Both these modules are inside Acorn's *NewLook* application and can be found by Shift-double-clicking on *NewLook* to open the application directory. If you are already loading them from your existing *!Boot* file then the *ROMApps3D* execution line will be removed and the *BorderUtil* execution line will be acknowledged. The exact Acorn spelling is important as well as character case for the modules to be spotted.

The *!System* application must have been seen by the Filer and is assumed (not unreasonably) to be on the filing system that will be booted. The new *Templates* directory will be created here and it would be a good idea to lock the contents of this directory to prevent accidental deletion, depending on how likely this is to happen.

If you do not have a *!Boot* file then *3DRamFree* will create one and set everything up for it to be implemented. The new *!Boot* file will be typed as a Desktop file and will be executed using *OPT 4,3.

If you do have a *!Boot* file then it will be added to the end of the new one, to maintain the last line which should be *DESKTOP (plus any options), and your file type and *OPT4,n settings will be used. If you are using *OPT4,2 to run a *!Boot* file other than Desktop, Obey or Command types, it will be assumed to be a machine code program and *3DRamFree* will stop there and then not doing anything.

If your *!Boot* file is an application directory, Risc PC style, then it will be assumed to be on a Risc PC and again *3DRamFree* will stop there and then, not doing anything. This is because you will already have the benefits this program offers built in to your computer. If it isn't a Risc PC then you must have altered your *!Boot* file to look like one and must revert back to a standard set up for the changes to be made and then recreate your *!Boot* application directory as it was.

Using disc-based templates is best suited to a hard disc but will work on floppy systems. Indeed, for an easy demonstration of what will happen you could copy your *!System* directory to a floppy disc. Double-click on it to reset its paths. Copy your *!Boot* file to the floppy and then double-click on *3DRamFree*. You can then examine the *!Boot* file and *!System* directory for the changes that will have been carried out.

The new module *Apps3Dmods* is checked for when *3DRamFree* starts up and if found an error will be generated. This is to prevent the *!Boot* file from being altered more than once, which would be a waste of time. Of course you can always *RMKill Apps3Dmods to allow *3DRamFree* to run again, but you have been warned.

If, by some bizarre coincidence, you already have another module called *Apps3Dmods* then you could load my module into *Edit* using Shift-double-click and alter its name, character for character, ensuring the name length does not change. You would then have to alter the *!Run* and main *!Boot* files to suit to complete your modifications.

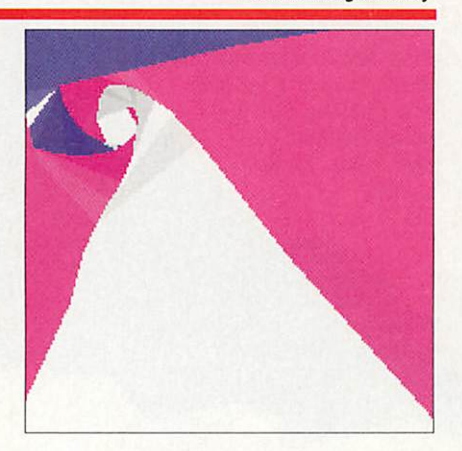
Tunnel

Author: Morgan Henry

Morgan describes his second demo as 'an uncontrolled drop down a looping tunnel, much like a neverending laundry chute.' So for all you laundry chute fetishists, this is definitely the one you've been waiting for.

The speed of your laundry can be changed by pressing the left and right mouse buttons. One of two tunnels is randomly chosen when the program is loaded.

These were written on an ARM2 machine and consequently will run too damn quick on anything else. Modifying the value of num (at the begining of the program) should slow it down effectively.

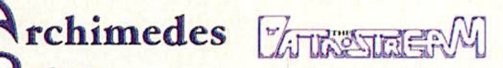


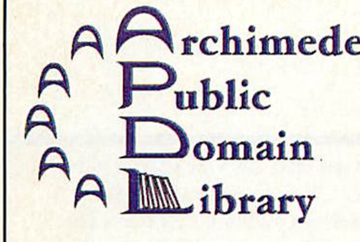
*QUIT

All offerings, large, small, clever, pretty or even useless are always welcome. Send them to *INFO, *Acorn User*, Europress Publications Ltd, Europa House, Adlington Park, Macclesfield, SK10 4NP.

Don't forget to include your name, address and program title on every disc please and include a text file containing same. An SAE ensures your disc's return. Do send instructions, diagrams, examples and screenshots (particularly if your ditty takes a long time to produce its result). The technical and graphical are equally welcome – if your program is clever tell us why in lurid detail.

Incorporating





P.D. and Shareware for the *serious* Archimedes and Risc PC user

For a catalogue send £1 or four 1st class stamps and ask for 1.6Mb or 800K discs.

A.P.D.L., 39 Knighton Park Road, Sydenham, London SE26 5RN

As well as the best collection of P.D., Shareware, and other low cost software we offer

!Faster PC - The alternative PC emulator only £20

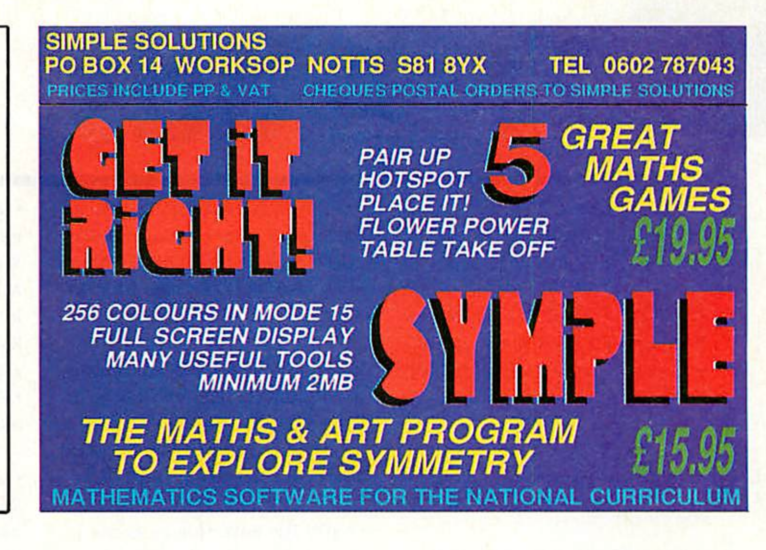
Hard discs - Part exchange your A5000 for a massive 420 Mb drive

80 Mb to 420 Mb only £205 :-: 160 Mb to 420 Mb only £175

210 Mb IDE drive and interface for A310/A400 only £230 (others available)

PLUS a huge range of cheap PC Shareware for use with a PC emulator or PC card.

(All prices inclusive)





TOP QUALITY P.D. WITH LOW PRICES AND A FAST AND FRIENDLY SERVICE WHAT MORE COULD YOU ASK FOR?

Our latest demo disc/catalogue for just £1

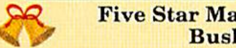
EXCELLENT PACK OFFERS

At only £3.50, each pack has three discs with the best fully archived selected software.

- Games Pack 1
- Draw Clipart Pack 1
- Utils Pack 1
- Games Pack 2
- *NEW* Draw Clipart Pack 2
- *NEW* Games Pack 3
- Educational Pack 1
- *NEW* Sound Sample Pack
- Special



Pack

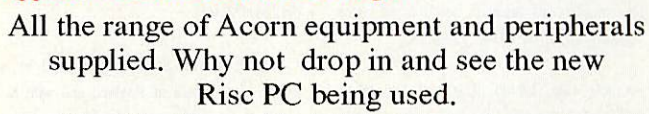


Buy any two packs and get our demo disc free.
Buy any four packs and get a free mystery disc.

Exclusive to Five Star as budgetware the FULL version of the game DINOSAW at only £3.75



Five Star Marketing, 4 Shepherds Walk
Bushey, Herts. WD2 1LZ.



Acorn Advantage Dealer
Owl PC-Compatible Computers
Suppliers to Local Schools & Colleges

All the range of Acorn equipment and peripherals supplied. Why not drop in and see the new Risc PC being used.
For friendly and helpful advice phone us.

Mail Order Available Send SAE for a price list

799a London Road, Chalkwell, Westcliff-on-Sea, Essex, SS0 9SY.
Open: Mon-Fri 9.30 ~ 5.00 : Sat 9.30 ~ 12.30



01702 710100



SOFT . . . . SECTOR

Tel: 0962 863225

UNBRANDED DISKS: SONY, VERBATIM, KAO, DYSAN etc.
(Subject to availability). 100% Certified Guaranteed Error Free
Packs of 10 supplied with FREE Library case

3.5" DSDD	£4.90	5.25" DSDD	£3.75
3.5" DSHD	£6.60	5.25" DSHD	£5.80
Labels included		**Envelopes & labels included**	

Enquiries welcome for bulk orders

LOCKABLE DISK BOXES		ACCESSORIES	
50 Cap 5.25"	£5.95 each	Library Cases 5.25"	£1.15 each
100 Cap 5.25"	£7.25 each	Library Cases 3.5"	99p
40 Cap 3.5"	£5.25 each	Mouse Mats Red, Blue, Grey	£2.30 each
100 Cap 3.5"	£6.75 each	Disk Labels 3.5"	£1.20 per 100
		Disk Labels 5.25"	£1.60 per 100
		Disk Envelopes 5.25"	£3.40 per 100
200 Cap 3.5", File Drawer	£11.99 each	Disk Drive Locks 3.5"/5.25"	£11.50

Printer Ribbons Toner cartridges – Original and Compatible – Ring for Prices

ALL PRICES INCLUDE VAT - NO EXTRA CHARGE FOR POSTAGE & PACKING
GOVERNMENT AND EDUCATIONAL ENQUIRIES WELCOME

SOFT SECTOR 58 Andover Road, Winchester, Hants SO22 6AG

Crack it with Creator II ...

Don't bamboozle your brain with BASIC, confuse your cerebrum with 'C' or annoy your head with Assembler. Creator II will let you create a wide range of arcade-style games, demos and animations with its "impressive ease of use," as Acorn User's reviewer found. With Creator II "you should end up with a result you can be proud of," according to Acorn Computing. Creator II Games Designer - £49.00.

(Upgrades from Creator Version 1, £20 inc. p+p - please return both discs)

Extra Discs Sound FX 1 and 2: £5 each, Sprites: £5. Music discs 1-5: £1.50 each. Our UltraSonic Desktop Music Tracker/Editor is "a convenient way to create tunes" (Micro User), whether for use on its own or with Creator and it costs just £30.00. For interactive text adventures, with graphics if you want, we offer, in the words of Archive, our "powerful and easy to use" ALPS Adventure System at £34.95. Explorer - solar system exploration game and database - £30.00 inc. site license. Adventure Collection - 3 games, COPS, Plague Planet & Kidnapping, only £15.00.

Order now or send some blank discs and a 38p SAE for our Product Guide disc. Creator II & ALPS Demo discs (one disc required for each).

Please add £1.50 per order for UK p&p. EC £3.00; Outside EC £5.00.

ALPINE SOFTWARE

PO Box 25, Dept. AU, Portadown, CRAIGAVON, BT63 5UT







Arc/RISC PC: £44.95
Upgrades: £16.95

Q. How did 100s of teachers save 1,000s of hours last term?

A. By using the latest version of our National Curriculum record keeping package, which now has automated report writing!

For details about how you can save time and stress:
Dept. AU, H.S. Software, Freepost, Swansea, SA2 9ZZ
Telephone: (0792) 204519 Fax: (0792) 298283





"As is often the case, the simple ideas are often the best. This is both a simple and very effective application. It is extremely easy to use and produces very attractive results....Buy it!" - Acorn Computing Dec. 1994

Need ***we*** say more...

Now available with memo style!

Price: £25.00 + V.A.T. (£29.38 inc.)

8 Barrow Road, Kenilworth, Warwickshire
CV8 1EH Tel: 01926 851147



Free ads

• Wanted: a manual for A3000 and any cheap software due to being an Acorn beginner, but enthusiastic. Tel: (01703) 497978.

• A5000, 8Mb, FPA, ARM3, 330Mb Maxtor & 40Mb Connor IDE HD. RISC OS 3.11, Multisync monitor (14in colour) £1100. Tel: (01634) 575841.

• A310, 4Mb RAM, RISC OS 3.1, ARM3, 20Mb HD, Acorn colour monitor £550. EX800 colour printer £125. Tel: (01474) 853534.

• BBC B, Microvitec 653 CUB, Watford twin 40/80 drives on plinth, Canon wide carriage NLQ printer, lots of software £200. Tel: (01799) 524935.

• A5000 LC 4Mb RAM, RISC OS 3.1, 40Mb HD, AKF50 SVGA monitor still under guarantee, includes all manuals and lots of extra software, £950. Tel: (01462) 835893.

• A3000, 4Mb, ARM3, RISC OS 3.1, 45Mb SCSI drive, PC Emulator, serial chip, VIDC enhancer, £750. Star LC24-10, sheet feeder, £100. All in excellent condition. Tel: (01489) 584244.

• A3000 for sale, 4Mb, RISC OS 3.1, 14in monitor, PC Emulator 1.7, Impression II, Chocks Away, Learning Curve, 100 discs of various titles, £499. Tel: (01270) 883490 after 8pm.

• For sale: 13 Archimedes World magazines & 21 Acorn Users, will split. £20 the lot, ring for details on dates etc: Crewe (01270) 883490.

• A5000LC, 4Mb RAM, RISC OS 3.1, 160Mb HD, Impression Style, latest games £700. Recently upgraded to Risc PC. Tel: (01703) 269818.

• A410/1, 4Mb RAM, RISC OS 3.1, ARM3, 20Mb hard disc, Taxan 770+ LR multisync monitor, dust covers, all boxed, excellent condition, £600, may split. Tel: (0836) 597665

• Arc games: Flashback £18, Phaethon £10, other software: Atelier art package £10, Chartwell £10, Music Theory £10, French £10, Bank Manager £10, All £40 + postage. Tel: (01706) 817570.

• A5000, 4Mb/240Mb IDE, SCSI card, Impression II, ArtWorks, Eizo 9060 monitor, PC Emulator £1000, Scanlight A4 scanner & feeder £200, laser direct LBP-4 600dpi printer, lower cassette £450. Tel: (01244) 682396.

• A3000, 2Mb RAM, Multisync monitor and stand, joystick, manual, some games and software, £350 ono. Tel: (01924) 463015.

• BBC B computer, CUB high resolution monitor, Epson printer, Mega 3 ROM (Interword/sheet/chart), screen dump, joystick, all manuals plus many software applications, £200. Tel: (01734) 699460.

• Will Mr Martin S Avison, believed to be living in the south of England and with last known previous address of 11 Meadow Close, Wolvey, Hinkley, Leicestershire, LE10 3LW, please contact Mr Keith E Lowe of 35 Northway, Pickering, North Yorkshire, YO18 8NN, tel: (01751) 472285 where an A440/1 would like to read some of his software?

• Master 128K + 512 PC emulator, monitor, mouse, 3.5in & 5.25in FDD, modem, joystick x 2, extra ROMs, loads of software, manuals and mags, £350. Tel: (01374) 444877.

• Colour Card Gold version 2 from CC, £175. Tel Jack on (0973) 323361

• BBC B with CUB monitor, twin disc drive, stand, Wordwise 1.17, DFS, files, space, utils, tape deck and games. Sensible offers please telephone (01342) 323385

• A3000 LC, 2Mb, RISC OS 2, some games £200, Watford Electronic SVGA VIDC enhancer £15, tel: Dave (01734) 560283 (evngs).

• Long-standing enthusiast needs cash! BBC B, many extras including 80/40 drives, £75. BBC Master, extras including floppy drive £100. A310, colour monitor, extras, £300. Lots more, including: monitor, desk, bound Beebug and Risc User magazines, plotter, modem, touchpad, books, software etc. SAE to 10 Hardys Field, Kingsclere, Newbury RG15 8EU for list or tel: (01635) 297701.

• A3000, RISC OS 3.1, 4Mb, internal 85Mb IDE, ARM3, internal SCSI, 14in monitor, much software £500. Scanlight 256 for A3000 £50, Panasonic KX-P1081 £40, BBC Compact £50, evenings Tel: (01266) 42785

• Queen (group) software available. Disc-mag, music-player, photo gallery, recordings database etc. £1.50 each application. Tel: (01772) 556117, ask for Dave.

• Archive mags, issue 1 to September 1994, Desktop C, Advance, unopened as new, Pipedream 3, CC Compression, Illusionist, ArcMonitor, Ovation. Offers the lot. Tel: Dumfries (01387) 46257. Buyer collects, wheelchair bound.

• A5000LC, 33MHz, 4Mb RAM, 160Mb HD, AKF50 monitor, Integrex betajet (monochrome) printer, PC emulator, Acorn Advance, games + much more. £1000. Tel: (01663) 746886.

• A5000 LC 4Mb 80Mb HD, under 2 years old, little use, excellent condition, seen working or boxed, instructions manuals for all. £850. Tel: (01634) 713502.

• Wanted: BBC B/Master software, disc, tape or cartridge, anything considered. Tel: Darren (01273) 477389.

• A5000, LC Multisync colour monitor, 4Mb memory, additional demo software with citizen swift 24E colour printer, £995 ono. Impression Style unused, £89. ArtWorks unused £150. Tel: (01733) 321540.

• A440/1 colour, 4Mb RAM, 50Mb HD, RISC OS 3.1, Watford electronics ARM3, Aleph One 486 PC card, 4Mb RAM. 5.25in external disc interface. Computer Concepts Publisher £1100 ono. Tel: (01275) 891507.

• Acorn Risc PC, 4Mb, 210Mb HD, Taxan 15in monitor, software as new, £1500 ono. Tel: 0151-639 7261 after 6pm.

• A410/1, 4Mb RAM, 40Mb HD, Taxan 770, Ovation, PC Emulator, lots of software. Tel: Graham on 0181-758 5397.

• A310, RISC OS 2, Acorn colour monitor, ArcWriter, some games, voltmace joystick, little used, £260. Tel: (0896) 751490 evngs.

• Disc drive: twin 40/80 5.25in drives plus power supply in plinth for BBC/Master. £75. Tel: 0181-751 2120.

• Word Processing package wanted for Acorn Electron. Tel: (01329) 236853.

• Acorn User editions 1 – 97 complete. All mint or very good condition. Will not split. Offers invited. Tel: (01442) 832 923.

• A3000, colour monitor, mouse, some software. Bargain at around £170. Tel: 0151-353 0995.

• A410, 4Mb, ARM3, RISC OS 3, 60Mb HD, Taxan, software, £600. PC Card 486, £220, contact Mr Denoo, 4 Rue des cyprès, 91230 Montgeron, France.

• A5000LC, 4Mb RAM, 120Mb HD, RISC OS 3.1, Acorn multiscan monitor, PC emulator v 1.86, lots of software, magazines, all as new. £750. Tel: Durham 0191-388 0245.

• BBC B, issue 7, 40/80 disc drive, Panasonic KXP1080 printer, Interword, ROM board, 40+games and much more. £175 ono. Tel: (01923) 232957 (evngs).

• Games: Elite gold £20, Aggressor macho and original £8 together, Blood Sport £5, SWIV £5 +many others. Tel: 0161-224 9866, ask for Daniel.

• For sale: Archimedes game James Pond, still boxed as new £10 ono, will swap for Zool, Gods, Stunt Racer 2000, Robocod (James Pond 2). Tel: (01531) 820808.

• Computer Concepts Scalight 256 scanner. Internal expansion card, excellent condition, £175. Tel: (01703) 260088 evngs.

• A3000, 2Mb colour monitor, 20Mb HD, many games, applications, includes Seikosha 9-pin printer, £650. Tel: (0275) 873278.

• Attention Acorn users: this is a special announcement. Ovation worth £100, 11 top games worth £200 and clip art worth £150, all for just £210 plus P&P of £20. Phone now for this fantastic deal. Tel: (01709) 866753.

Acorn User Free Ads Service

Why not take advantage of our free reader ad service? Fill in your details on this coupon or a copy (25 words maximum, one word per box below) and send it to Free Ads, Acorn User, IDG Media, Media House, Adlington Park, Macclesfield SK10 4NP. Only one ad per reader, please. Although we try to publish every ad we receive, we can make no guarantees; publication is entirely dependent on space and time constraints. We may also publish free ads on the cover disc if magazine space is short. Please fill in your name and telephone number below: these will not be published, but they enable us to contact you in case of any queries.

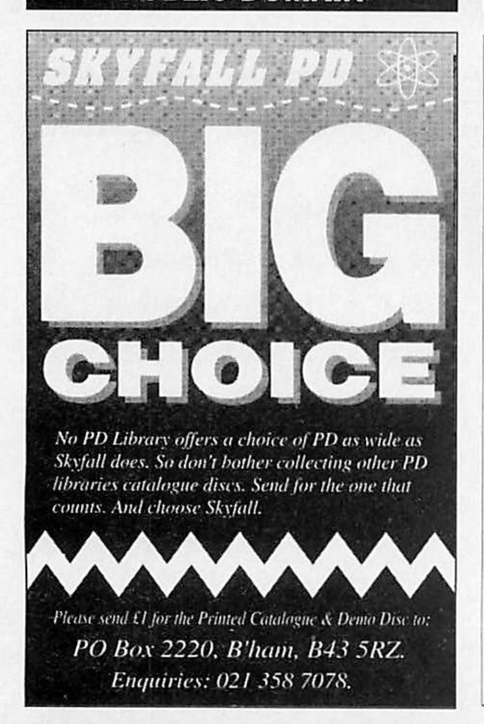
Your name ______________________ **Telephone no** __________

ACORN USER

ADVERTISERS INDEX

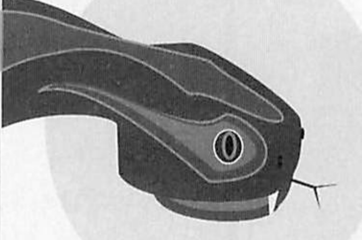
SOFTWARE SHOWCASE

PUBLIC DOMAIN



EDUCATION

Software for Serious Science & Technology



WRITE NOW FOR OUR FREE DEMONSTRATION DISC FOR SCHOOLS

SSERCSOFT

SSERC (AU), 24 Bernard Terrace, Edinburgh EH8 9NX
Tel. 0131 668 4421 or Fax. 0131 667 9344

CLIP ART



Sicar Uchaf
Brongest
C. N. Emlyn
Dyfed
SA38 9ET

Discs 1, 2 & 3 available now

Patterns, borders, panels, motifs, crosses, chains etc. All in Draw format. Hints files on altering the graphics

£10.99 each, £18.99 for any two or £24.99 for all three (inc p&p etc.) or send £1 coin for sample disc

Send your order with cheque payable to G. Howells



DEALERS

10% Discount + Free mobile phone

- Acorn, PC, peripherals
- Repairs and maintenance
- Delivery includes installation & tutorial
- Free technical support 7 days a week
- Consultation to education & business

Quantum International
3 Haughmond, Woodside Grange Road, London N12 8ST

9 am - 9 pm (7 days)
0956 54 00 55

DISC MAGAZINES



316 Outwood Common Road/Billericay/Essex/CM11 2LT/Fax (01277) 622394

UTILITIES

KEYSTROKE

When it comes to truly useful utilities, only one stands above all the rest – KEYSTROKE, offering you unrivalled power and control over any program. KEYSTROKE is a mouse & text 'macro maker' program which actually makes RISC OS applications perform a series of their functions in a user triggered sequence by either pressing a key or clicking on an icon.

Whether you are a professional user, developer or involved in the special needs or educational areas then you will find that KEYSTROKE increases productivity, makes programs easier to use and saves you time and money. This is a program you can't afford NOT to have on your icon bar.

We even supply free many predefined actions for popular applications like - Publisher, Ovation, Style, Paint, Draw, Artworks, etc. A network version of KEYSTROKE allows some interesting possibilities. Imagine sending a command down the network to pupils that shows them how to do a certain mouse operation on their program! No more walking across the classroom floor!

KEYSTROKE has been on the market now for two years and has hundreds of extremely satisfied users, here are a few of their comments – *"Acorn should have put it in ROM with RISC OS 3!"*, *"It's incredible, I'm never without it on my icon bar"*, *" Thank you for the most useful piece of software since Impression itself!"*, Archive - *"one of those programs you can't live without!"*.

A demo disc is available free, so see for yourself what you can do with this incredible program.

KEYSTROKE is suitable for ANY Acorn machine running Risc OS and is offered for only £29.95 fully inclusive. No VAT. Contact any good software dealer or write to us at the address below.

Quantum Software, 35 Pinewood Park, Livingston, Scotland, EH54 8NN, Tel: (44) 0506 411162.

STATISTICS

Statistics with Graphics



1st, 1stJr, and 1stL lead the way.

Our ESTABLISHED products cover levels from school (GCSE) to advanced research. Upgrade paths, Site licences and Loan copies are all available

Serious Statistical Software, Lynwood, Benty Heath Lane, Willaston, South Wirral L64 1SD Tel 051 327 4268

MULTIMEDIA



SOFTWARE/HARDWARE



DTP

TableMate 2



TableMate 1 & 1.1:
- Praised in reviews
- Bundled with Impression Style

TableMate 2:
- Many new features
- Available NOW.

New features include:
- Colour handling
- Word wrapping within columns
- Draw files inside cells
- Full price £32-50 inc. P&P (No Vat)
- Upgrade prices for Impression Style/Publisher & TableMate users
- Phone or send an SSAE for details

Dalriada, 145 Albion St, Kenilworth Warks. CV8 2FY. ☎ (0926) 53901

ACORN USER guide to local dealers

WEST YORKSHIRE

Davyn Computer Services

For the best service in Yorkshire (we think) CALL US!

For A3000, A4000, Risc PC, A4 Portable & Acorn Pocket Book. Visit our showroom

Open 9.30 to 5.30 Mon, Tues, Weds, Sat
9.30 to 7.30 Thurs & Fri

Tel (0924) 254800

Printer & Ribbon Sales
Expert Advice & After Sales Service
Service & Repairs to All Equipment
Full Range of Acorn Hardware & Software
(We operate the Acorn Finance Schemes)
Full Range of Educational Software in stock & on DEMO

WE ARE HERE

The 'Workshop', off Princess St, Sandal, Wakefield, West Yorks, WF1 5NY

Acorn Cannon CITIZEN Calligraphy

BIRMINGHAM



459-463 Warwick Road, Tyseley,
Birmingham B11 2JP



Your Birmingham & Solihull Acorn Dealer

• Special Needs • Business •
• Education • Home Use •
• Repairs • Networking •

Tel: 021-706 8933

DERBYSHIRE

Acorn's full range at bargain prices
Risc PC - Free memory or Processor U/G

Sound Practical Advice - Demonstrations Daytime, Evenings and Weekends

Memory Upgrades - Hard Disc Drives - Printers - Scanners - Software

Acorn Assist Scheme for Academic's - Teacher's - Student's - Mail Order Available

0% and Low Cost Finance Terms Available (Subject to Status)

Telephone Hot Line Technical Support - Spares and Repairs - Home Tuition

High Definition Mono Scanning - Mono and Colour Printing Service Available


Acorn Approved



Telephone and FAX
01 332 690691

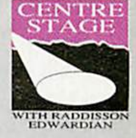
8 Old Gate Avenue - Weston on Trent - Derby - DE72 2BZ

WEST MIDLANDS



MAUDENS

"Millside", 133 High Street,
Wollaston, Stourbridge,
West Midlands, DY8 4NZ.



1980 to 1995 Celebrate 15 Years Of Business With Us

- Main Acorn Education Dealer for the West Midlands
- FREE Bottle of Champagne with every machine purchased PLUS 15% Discount on Centre Stage Theatre Breaks
- FREE Entry Prize Draw: Weekend Theatre Break Five Star Hotel
- MAIL ORDER - It is our policy to match most prices on offer

With 15 years of service you can't go wrong with Maudens

Tel: (01384) 444433 / 441655. Fax: (01384) 833111

CUMBRIA

CSS Computer Centre
Acorn Education Centre
Acorn Unix Centre

Showroom open 9-5.30
Six days a week
Training. Free fitting add ons
Repairs and maintenance

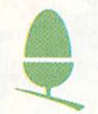


NEW RISC PC 600 IN STOCK

CUMBRIA SOFTWARE SYSTEMS LTD
Unit 3A, Townfoot Ind. Est., BRAMPTON
CUMBRIA CA9 1SW
☎ 06977 3779



NORTHANTS



Kettering Computer Centre



NORTHANTS LARGEST ACORN DEALER

Extensive range of software, peripherals and upgrades

Special needs and educational orders welcome.

Please call us to discuss all your Acorn requirements

0536 410070



Allbury Ltd, Midland Bank Chambers,
15/17 High Street, Kettering, Northants NN16 8ST



Special SUBSCRIPTION OFFER

Here's more information on... *The new Shareware disc*

The Shareware disc contains some of the best Public Domain and Shareware programs available for the Archimedes:

Desktop+

A number of enhancements are brought to the RISC OS desktop by *Desktop+*. Outline fonts can be used in Filer windows, files can be dragged using transparent sprites, and directories as well as applications can have icons.

SerialMse

This program enables PC-compatible mice to be converted to the serial port on your machine and used as normal.

Mangify

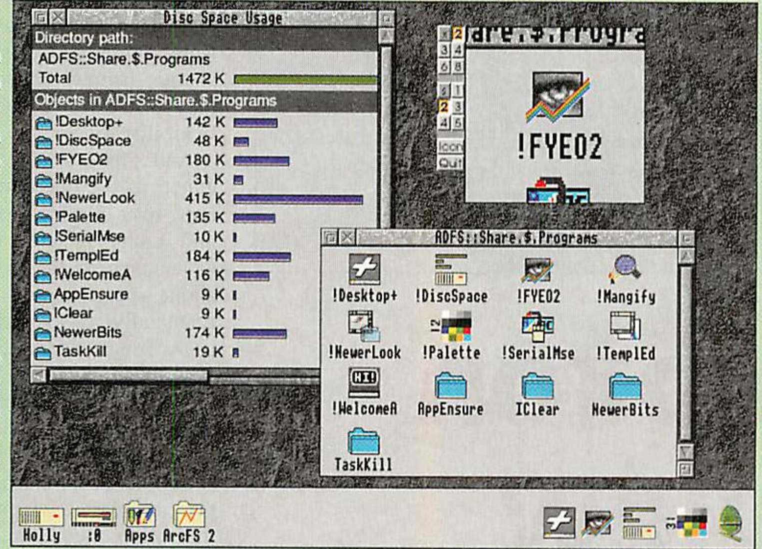
Mangify is a very fast desktop magnifier, ideal for desktop design work needing fine detail to be visible on the screen. The magnification, size and position of the window are all configurable.

Clear

This module allows text in writable icons – except in menus – to be cleared by double-clicking on them and then typing, rather like words in *Impression*.

TaskKill

This module will kill tasks that have 'hung.' Such tasks are stuck in an infinite loop, and never return control to RISC OS. The keyboard is still active, however, and *TaskKill* enables a key combination to be used to abort the offending task. An essential module for developers.



Palette

This program replaces the RISC OS Palette manager on the icon bar. It gives a display of the mode number on the icon bar, a much friendlier way of changing modes and a number of different palettes. It is highly configurable and has a number of useful key shortcuts. *Palette* also includes a screensaver to prevent burn-out on your screen.

WelcomeA

This little program lets you replace the welcome screen on RISC OS 3 with one of your own choice.

FYEO2

This program is a fast JPEG to sprite converter, also handling TARGA, GIF and PPM files. It will output to sprites with up to 256 colours, and can use Floyd-Steinberg dithering to simulate many more colours.

NewerLook

This comprehensively changes the look of your desktop by replacing the default icons with 3D equivalents. The implementation is even better than Acorn's *NewLook*, and includes a replacement for the standard hourglass.

Subscription form for Acorn User

SUBSCRIPTION HOTLINE FOR CARD ORDERS
Call now on 051-357 1275
or Fax 051-357 2813

1 ☐ Please enrol me as a subscriber to **Acorn User** magazine for 13 issues. All subscriptions will commence with the next available issue

4132 ☐ **UK £37.99** 4131 ☐ **WORLD £68.99***

4133 ☐ **EU £53.99**

Surname (Mr/Mrs/Ms/Miss) ....

First names ....

Address ....

....

Postcode .... Telephone ....

*Unfortunately World subscribers are not eligible to receive the free gift pack.

2 I wish to pay by:

☐ cheque/postal order made payable to IDG Media

☐ Credit card (Visa/Access/Barclaycard/Mastercard/Eurocard/Connect.)

Expiry date ☐/☐

Card No. ☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐

3 Now send your completed form and payment to Acorn User, Database, FREEPOST, South Wirral, L65 3EB. Please state if credit card billing address is different from delivery address. Photocopies or handwritten versions of the above information are acceptable. IDG Media offers you the chance to receive information about other organisations' goods and services. Please tick the box if you prefer not to take advantage of this. ☐ (New gift pack code 4128)

This offer is for both new and renewing subscribers





REGAN

The Moxon Interview

MIKE ROMYN

> 'I don't believe that Acorn realises quite what it has produced with the Risc PC'

It's raining, and Mike Romyn – the main Acorn distributor for South Africa – is a long way from home. Apparently the weather in Britain is the main reason for the large number of ex-pats living in South Africa, and it's easy to believe when it's chucking it down on a cold Hallowe'en night.

But it's not only the weather that's different between South Africa and Britain. The Acorn market – traditionally just education and home computing in this country – is a whole new ball game over there.

'We have three main markets in South Africa,' explains Mike, warming up slowly over a tequila in a St Albans pub. 'There's education, professional desktop publishing, and solutions for vertical markets. Acorn is genuinely surprised at what its computers are being used for in South Africa.'

So am I. The quality of the products published by Risc PC owners in South Africa is stunning: a top book publisher, two of the largest estate agents and the oldest printer in the country all use Acorn kit, and that's naming just a few. There are also some interesting vertical markets, such as the plastic surgeon who uses *Rephorm* to show patients what their faces will look like with a little tuck here and a little snip there.

'I don't believe Acorn realises quite what it's produced with the Risc PC,' says Mike. 'We launched it at the biggest computer fair in SA and people were coming over from places like Hewlett-Packard and talking about it. It's caused a minor ripple through the industry, which is remarkable in a marketplace that is so brainwashed by PCs.'

But like most markets, making Acorn a success involves a lot of work. You have to get out there and sell the machine, and it's here that another important difference between the two markets appears.

'In SA we sell value-added systems,' says Mike. 'We're not box shifters, we're solution providers, and our dealers make very healthy margins. When you bundle a DTP solution together with computer, scanner, printer, software, training and support, you don't undercharge: people will see the system and realise they just have to buy it, so there's immense flexibility for pricing.'

And this attitude doesn't over-inflate prices either, as the distribution network keeps a tight rein over dealer pricing. In fact, the sales philosophy enables the dealers to push the advantages of Acorn systems without worrying about margins and slashing prices for the financially-conscious education market.

'Acorns have three major sales advantages,' says Mike. 'The cost of ownership over time is less than in the PC market, people get the latest technology but can also run PC software, and Acorns have a higher productivity rate than PCs.'

This is quite different from the sales philosophy in the UK, which centres round the family that wants a computer for the home, and wants to be able to play games, educate the kids and use the computer for practical purposes. Not surprisingly, the South African market is more professional than the UK.

'We're optimistic about the way Acorn is looking in the South African market,' Mike points out, 'but I feel Acorn should be taking a more pro-active role in guiding software standards. There are lots of companies producing brilliant stuff without a clue as to the potential – they stop five per cent short of a brilliant package because of the stigma of the education tag: they don't think further than "school".

'It's very much a British thing. The British have the brains and the inspiration, and the Americans have marketing skills. In South Africa we're closer to the UK in terms of education, but we're much closer to the Americans when it comes to selling. If only every Acorn company brought in one US sales manager, things would improve staight away.'

And of the future in South Africa? Is it educational, or professional?

'Both,' says Mike. 'There is a critical shortage of skilled teachers in South Africa and because of the large distances involved, a lot of schools only have access by copper telephone line. This opens up the future potential of using Online Media to provide quality education to remote areas: ultimately we see Online Media as a Utopian system of learning. The future of Acorn in South Africa looks promising.'

And, of course, the weather's better. AU

The Formula 1 package for original painting and photo-retouching. Studio24 leaves the competition at the starting grid with its power and performance. The FREE updating service ensures that once you join the Pineapple team you will never have to pay for the latest model!

Studio24

This picture is original artwork produced using Studio24 by Walter Briggs of Kingfisher Graphics

A demo version of this package is available together with many example pictures and a complete copy of the manual. Price £5.00 +vat (Refundable against purchase of the full package)

Full Package Price £125 +VAT

Pineapple Software Virus Protection Scheme

The Pineapple Software Virus Protection Scheme provides the most comprehensive protection available against computer viruses. !Killer together with VProtect will detect and remove all of the currently known 66 families of virus (over 100 viruses in total). Because new viruses are being discovered all the time our virus protection scheme will provide you with 3-4 updates of the software each year. We can also offer immediate advice by 'phone. !Killer can scan any filing system or device including floppies, harddiscs, networks, even CDRoms. All types of compressed file can also be scanned. All infected files are fully restored without having to reload from master discs or backups.

Don't wait until you discover you have a virus! Use the software that Acorn themselves use to check for viruses.

A years subscription costs just £24.00 + vat

Low cost school and county licences available

Acorn Computers

We are fully authorised Acorn dealers and we can supply all Acorn computers and upgrades at very competitive prices, usually by return of post. All Acorn computers are supplied with free membership of the Virus Protection Scheme and a special offer on our Studio24 painting package of just £80.00 + vat.

Please 'phone for more information and details of special computer package deals which may be available. If you are undecided as to what hardware you really need then we can provide professional advice and assistance to help you choose the right system for you.

New from Pineapple!

The amazing pressure sensitive Wacom Graphics Tablet from EESOX

A6 (Artpad) £159 A5 £399 A4 £549 A3 £799

Any of the above tablets can be supplied with our Studio24 painting package, which incorporates both opacity and line width control using stylus pressure, at a combined price £80.00 more than those shown above.

Colour Printers - Canon & Epson

Due to bulk purchase we can offer the BJC600 colour printer at the lowest ever prices. Also to be recommended is the Epson Stylus. We also offer our Studio24 painting package when purchased at the same time as a printer at a reduced price of just £80.00 + vat.

Terms:- Please add 17.5%vat. Carriage FREE to mainland U.K. Phone for quote outside U.K. Official orders, cheques and all major credit cards accepted. Money back guarantee on all products.

Pineapple Software
39, Brownlea Gardens
Seven Kings
Ilford, Essex
IG3 9NL

Telephone Hot Line service on all products

Tel 081 599 1476 Fax 081 598 2343

The Complete Solution

Acorn Risc PC600
If you are looking to improve the performance of your new PC600 machine or are considering replacing your existing Acorn file server with a new RiscPC machine, Atomwide can help you build a system that ideally suits your needs.

Networking
Atomwide can supply everything from one ANT Ethernet interface right up to a complete network installation. If you are planning a network installation then contact one of our staff for support and advice.

10base2	£110.00	(£129.25inc)
10baseT	£110.00	(£129.25inc)

ANT Ethernet cards are available for every type of Acorn machine, with a range of client ROMs (eg. Acorn Access).

Backplane upgrade kits
All kits come complete with a 2nd PSU, 8 slot backplane, cables, the relevant number of case slices and detailed fitting instructions.

2 slot to 8 slot	POA
4 slot to 8 slot	POA

Acorn Risc PC600 memory
All Atomwide memory upgrades comply with Acorn's recommended chip counts and specifications. Please phone for details of exchange prices on memory SIMMs.

SIMMs		
4Mb	£120.00	(£141.00inc)
8Mb	£220.00	(£258.50inc)
16Mb	£499.00	(£586.33inc)
32Mb	£999.00	(£1173.83inc)
Larger SIMMs	POA	
VRAM		
1Mb	£99.00	(£116.33inc)
2Mb	£180.00	(£211.50inc)
1-2Mb	£85.00	(£99.87inc)

Acorn Risc PC600 machines
Custom built and standard systems are available with and without the standard Acorn monitors. Please phone for a competitive price on your system.

All PC600s bought from Atomwide are supplied with an extra 1Mb of VRAM free.



ATOMWIDE



7, The Metro Centre, Bridge Road,
Orpington, Kent, BR5 2BE.
Tel 0689 838852 Fax 0689 896088
Email: sales@atomwide.co.uk

E&OE